AALBORG UNIVERSITET
KØBENHAVN

Aalborg Universitet København
A. C. Meyers Vænge 15
2450 København SV
Danmark

Studiesekretær: Silpa Stella Rondón Pinto
Telefon: 9940 2285
Mail: ssp@sbi.aau.dk

Studenterrapport

Uddannelse: By, Bolig og Bosætning

Semester: 12.

Titel på projekt:
"Wing or Bone" - Implications of Information and Communication Technologies on Urban Slum Dwellers' Occupations

Projektperiode: Sept. 2015- August 2016

Vejleder:
Jesper Rohr Hansen
Studerende:

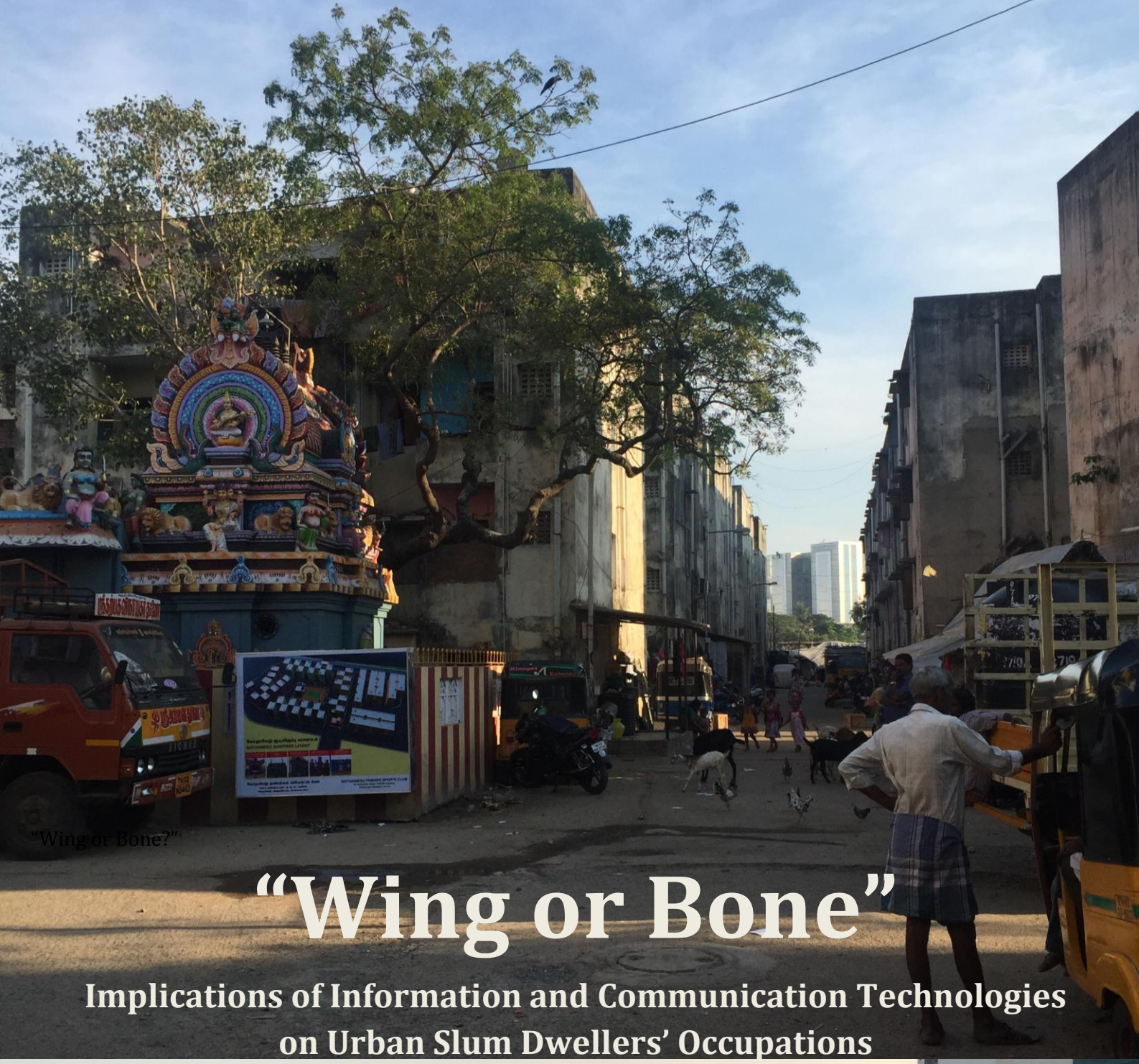
Eva Løvschall Haugaard Pedersen

Antal normalsider: 61

Vedlagt kvittering fra Digital Eksamen

Afleveringsdato: 26.08.2016

Resume:
This qualitative case study has dealt with three open concepts of *urban slum dwellers, information and communication technologies, ICT,* and *occupation* to understand their relation in the context of Chennai, India inner city slum area. Through interviews with 22 dwellers and 4 local professionals, the study finds that the already unequal structures rooted in the hierarchical Indian caste system causes inequity in outcome of education and access to occupation, which the introduction of ICT into almost all arenas of social life is expected to overcome. Due to ICT's role as a facilitator, not an end in itself and the 'glass walls and ceilings' blocking access to the private sector industry that locate the aspired-for IT jobs, ICT is argued to not wash out inequality between the social groups. The policy and urban governance is found to have an ambivalent role in their aid of the underprivileged, as low caste stigma has been institutionalised and thus become both a social and political reality. With the theoretical concepts of Pierre Bourdieu and Manuel Castells, the slum as a place is argued to be an expression of symbolic violence, and the Network Society notion functions as an understanding of the urban transformations in occupation, education advances and social life ICT has brought about.



"Wing or Bone?"

"Wing or Bone"

Implications of Information and Communication Technologies on Urban Slum Dwellers' Occupations

A qualitative case study in Chennai, India

Eva Løvschall Haugaard Pedersen
MA in City, Housing & Settlement Patterns

August 2016

Word count: 31.061

Acknowledgements

This dissertation would not have been a reality without the help of several people in both India and Denmark, and I owe them many thanks. Thanks to the IFMR office, Chennai who facilitated my stay in India, and to all the staff who have been so helpful. A special thanks to social workers Sister Agnes and Rohini Reddy, without the help of whom I would not have been able to enter the slum of Nakirar Nagar. Danish NGO Action Child Aid has my largest gratitude for introducing me to Chennai and the city slums, and the partner organisations' staff.

Table of Contents

Introduction

This dissertation takes it outset in the Indian megacity of Chennai, former Madras, which is the capital city of the South Eastern state, Tamil Nadu situated facing the Bay of Bengal. Chennai as a city, is along with most globalised nodes around the world, undergoing transformations in terms of urbanisation, and is one of the most urbanised Indian states with 48.4% of the population living in urban areas according to the 2011 census (Directorate of Census Operations Tamil Nadu 2011); an increase from 43.86 % in 2001 (Adaikalam 2010:34). An estimated 4.7 million people live in the city, yet due to processes of "*messy and hidden urbanisation*" it is likely that the number is much higher than accounted for in national surveys, especially among the urban poor (Ellis, Peter & Mark Roberts 2016: xi, 23). Chennai, along with other South Indian state capitals, are known for their success within the IT industry. The IT sector is prevalent in the cityscape with huge IT parks such as Tidel Business Park, Ascendas, RMZ Millenia I-II to mention a few. Taking a drive down the Old Mahabalipuram Road (OMR), a large highway in the southern part of Chennai, will presently offer the sight of many more such parks and companies mushrooming up. The global tendencies have local effects, in both the physical and social structure.

The IT parks are home to both national and international tech companies that primarily offer IT-BPO services (Information Technology-Business Process Outsourcing). According to the national IT-BPO industry association NASSCOM, Chennai's economic growth is currently rooted mainly in electronics manufacturing along with IT services, of which the city is presently the second largest supplier after Bangalore, popularly known as India's Silicon Valley (NASSCOM 2016). The Government of India, GoI, as well as the industry itself, have high expectations for job creation and expansion. Yet, recent numbers from the NSSO[1] show a drastic decrease in job creation whereof the IT industry is one (Chauduri 2016); from 421.000 in 2014 to 135.000 in 2015. Presently, India faces a demographic challenge: the current population of 1,25 billion, is soon to include one fifth of the entire working age population in the world (United Nations 2014; The Economist 2016). Thus, the ability to create jobs seems imperative.

The IT sector and ICT developments are expected to be responsible for much of that development. The revenues and jobs created through the IT sector and developments in ICT are expected to directly improve the lives of the lower strata of Indian society. In 2001, Professor C.P. Chandrasekhar from the Centre of Economic Studies and Planning of the Jawaharlal Nehru University identified macro-economic potentials and constraints related to ICT. Of the evident potentials, he states job creation and a reorganisation of the economy of India as expectations to the ICT industry, besides from:

> " … *the new technologies are expected to directly improve human development through the application of highly developed and dispersed ICT skills to improving governance, facilitating the empowerment of poorer households and communities and rendering the delivery of the benefits of extension programmes and welfare schemes more transparent and efficient.*" (Chandrasekhar 2001:1).

The quote expresses, as Chandrasekhar later questions, what can be considered a sort of intrinsic potential of ICT that in itself can provide prosperity and alleviate poverty for the underprivileged. A similar understanding and expectation of ICT as "progress" is reflected in the state-based scheme, "Free Laptop" (2006) introduced by the recently re-elected Chief Minister of Tamil Nadu, Jayalalitha[2]. The laptops were officially given to uplift the poor from poverty based in an ideology that providing youngsters with skills in technology is a way to equal out existing inequalities between groups. Know-how and practice with technology is in itself interpreted as poverty alleviating. In summation, ICT are perceived beneficial in terms of private sector job creations as well as a commodity that will enable lower strata to participate in the emerging occupational structure that the IT industry constitutes

1 National Sample Survey Organisation, India.

2 Jayalalitha, also known as 'Amma', or mother in Tamil, is the decade long leader of the party AIADMK. She was re-elected despite 19 months imprisonment regarding a 'disproportionate assessments' case' which she in 2015 was acquitted from. In the Chennai city scape her propagandist billboards are unavoidable in almost every street.

An important trait of Indian demographics is the caste system, a hierarchical stratification unique to India with roots in Hindu religious prescriptions and rituals, which is central when dealing with underprivileged. The caste system has caused historical divisions of occupations, where work considered impure, such as slaughter, sanitation, cleaning, would be ascribed the lowest ranking in the hierarchy and inherited from one generation to the next (Das and Dutta 2007). The social stratification of groups, where one's caste category is an innate stigma, was at India's independence from British rule in 1947 reversed from their traditional names to institutional names such as the SC, Scheduled Classes and ST, Scheduled Tribes, who were considered most disadvantaged compared to other groups because of traditional occupation and social stigma. Thus, a reservation or quota system was instated to even out the existing inequalities. Despite many advances in literacy levels, education of girl children amongst some of the positive developments among the newer generations, caste discrimination and inequality still prevails, even in the cities that are popularly said to have equaled out the discrimination of low castes, especially in occupation and education, which some research provide evidence of (e.g. Siddique 2008, Thorat & Attewell 2007).

The historical inequalities inscribed to the caste system have directly impacted occupational structure and organisation, placing the low castes in manual, causal and informal sector jobs, which is still an existing tendency, yet seemingly under transformation as younger generations strive to exceed their parents' occupations and education levels. The latter has become a reality for many youngsters, along with the slum dwellers of Chennai that this study deals with. As of the 2011 census, Tamil Nadu state reported a total state number of slum dwellers to approximately 5.8 million, and an increase in reportings from the 2001 census of 4.2 million, indicating that the urban slum is not a disappearing phenomenon, but a persistent one. That puts pressure on urban governance to absorb and create jobs for the many migrants that seek the city along with the original slum population, for whom the IT industry is popular as it expresses wealth and money.

In a situation with a historically unequal and segmented occupational structure for the underprivileged castes, which the slum dwellers of Chennai, if not all-India, translate into, how much can ICT change? Does it have the power to equal out the historic differences as is apparently expected? Or is the situation at a point in its evolution, where we cannot yet see the outcome? In essence, can the introduction of ICT as a relatively novel phenomenon amongst the slum inhabitants overcome structures of inequity in several fields, particularly the occupational, related to caste divisions?

This dissertation aims to explore these tendencies specific to Indian society and thus the group of urban slum dwellers who constitute the qualitative outset here. That leads to the following research question:

> ***How are the urban slum dwellers of Chennai affected by ICT, Information and Communication Technologies, in relation to occupation?***

The basic framework of the study is thus made up by three overall concepts: urban slum dwellers, occupation, and information & communication technologies. The initial outset of this study was of an explorative nature hence the open research question. The qualitative case demands certain openness in order to understand the context the social phenomenon is embedded in, thus new questions emerged during the data collection. Both initial and later questions and considerations are listed below and will translate into sections in the analysis.

The questions reveal that considerations on how the three concepts play out together also requests assessment of how they relate in pairs, for instance the slum-caste individuals historical relation to occupations.

1. **What are the slum dwellers' occupations and how does that relate to the existing occupational structure?**
2. **How can the mentioned changes ICT have brought about be understood in terms of the urban slum dwellers':**
    a. **Daily life practices?**
    b. **Work and occupational sphere?**
3. **How has ICT affected their occupational aspirations and expectations?**
4. **What is the role of policy related to the concepts?**

Integrated into these questions is the inquiry as to whether practice with technology along with education really lead to an increase in slum dwellers' chances to access and mobilize into occupations, as appears to be the government perspective on the potentials of ICT to alleviate the poor strata.

The numeration of the research questions correspond to the analysis section in the listed order, consequently analysis section 1 will explain sub-question 1, and so forth in the above order.
The study aims to shed light on the interaction between the individual level represented by the urban slum dwellers, in relation to the structural constraints in terms of inequality, caste and gender, that remains part of the occupational structure of modern India, whereof ICT has had a large impact within the last decades.

To explain, these traits are applied primarily concepts from French sociologist Pierre Bourdieu and his work on structure and internalization hereof, and secondarily, in an attempt to contextualize the ICT developments that impacts the occupational structure and eventually the spatiality of the urban areas in a globalized world, Manuel Castells' notion of the new urban geography caused by the developments within information and communication technologies.

CONCEPTUALISATION AND THEORIES

The following presents some central characteristics of the concepts of urban slum dwellers, occupation and ICT, as they are interpreted in this study. The descriptions are the results of aggregated knowledge on the concepts, that try to include individual and structural traits along with policy schemes and interventions that affect both. Finally, the theoretical perspectives of sociologists Pierre Bourdieu and Manuel Castells are presented as their theory and analytical concepts have been central to the interpretation of the findings.

Urban slum dwellers

The *slum* is in this study understood as an urban phenomenon situated in urban areas or agglomerations. The concept is perceived line with the perspective on slum as constitutive of a spatial expression of exclusion:

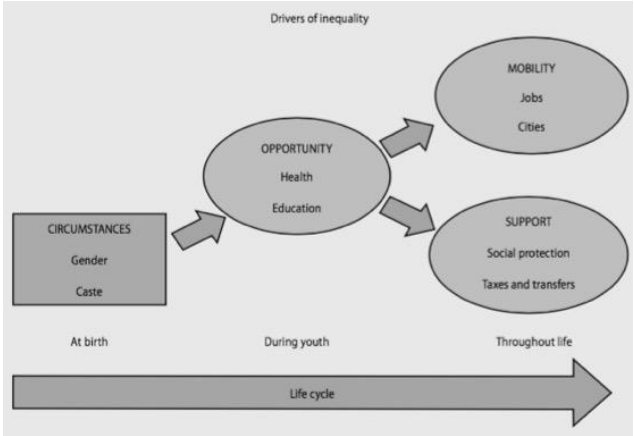
> *"… When territory expresses a separate pattern reflecting social hierarchy, class, caste or community-based segregation."* (Saglio-Yatzimirsky & Landy 2014:6-7).

Congested and dilapidated housing, situated in and creating hazardous environments, both in terms of disease, safety and pollution, often make up slum dwellings. The slum housing consist of government social housing apartments, huts built of scrap materials, e.g. braided palm leaves and cement, often combined. The housing types include both owned and rented housing, predominantly one-room only for both nuclear and joint family organisation (Directorate of Census Operations 2011). Differentiations of slums according to the terms of the urban body, Tamil Nadu Slum Clearance Board, TNSCB, presents three overall definition of slums: *unobjectionable*, referring to the legalisation of the slum by state government, *informal or objectionable settlements*, referring to illegal slum areas and lastly, *resettlement site,* denoting the large tenements built for the eviction of inner city slum dwellers and disaster affected families of for instance the 2015 devastating floods or the 2004 tsunami, demolishing settlements on the seashore, home to many fishermen's families. Eviction processes and resettlement sites besides from disaster relief have been criticised of violating UN's Human Rights Act[3] by isolating and segmenting already stigmatised groups in far-off areas, cutting them from their livelihoods (e.g. Ramya, & Peter 2014; Hanchinamani 2001).

Current migration processes amongst lower strata result in messy and hidden urbanisation causing informal settlements along riversides or *feeder canals*, on seashores, under large junctions and bridges (CMDA 2006 (2016)). Different policies have been initiated by the GoI to remedy the situation with schemes such as "Housing for all" under the Ministry of Housing and Urban Poverty Alleviation (GoI 2016) and the JnNURM (Jawaharlal Nehru National Urban Renewal Mission), focusing on "*integrated*" and "*planned development*" and "*universal access to the urban poor*" in terms of infrastructure, civic amenities, and reduction of congestion to reach the objectives of slum free cities and poverty reduction (TNSCB 2015:2-3).

The *urban slum dwellers* are, as their area of residence indicates, disadvantaged compared to other groups. As per the 2011 Census, 5,8 million people resided in slum areas of Tamil Nadu, an increase from 4.2[4] in 2001 (Office of the Registrar General and Census Commissioner 2013; Ministry of Housing and Urban Poverty Alleviation 2011).

Model 1



Source: World Bank Group: Addressing Inequality in South Asia (Rama et al. 2015:15)

The model picturing drivers of inequality aids in the understanding of life trajectories of the urban slum dwellers and their status as an already underprivileged group in Indian society. Gender and caste are innate traits influencing upon, if not determining, future opportunities and life chances, affecting life cycle.

The caste system unique to India remains a factor of "*inequality in opportunity and inequality in outcome*", despite decade-long reservation policies and benefits (Siddaramu 2013:1). The hierarchical stratification is rooted in ancient Hindu caste division, yet the caste definitions in modern, independent India are instated as SC, *Scheduled Classes*, ST, *Scheduled Tribes*, BC, *Backward Classes*, MBC, *Most Backward Classes* and OBC, *Other Backward Classes* as disadvantaged social groups, and the GC, *General Classes*. The SC and ST groups translate into the most deprived due to historic deprivation of landownership

3 As of January 1, 1942, India agreed to the terms of the UN's Universal Declaration of Human Rights (UDHR) (Hanchinamani 2001:2).

4 The increase may also reflect better registration and reporting of slums.

and access to other goods and status markers (Das & Dutta 2007); the urban slum dwellers are equivalent to low caste. According to the 2001 state-wise census on slums, the SC and ST categories make out 33.0% and 23.8% of the slum population in all Tamil Nadu; in Chennai slums the SC group constitute the larger ratio, and also include the BC, MBC and OBC groups. The GC category translates into the, at the time of instatement, resourceful castes, who do not opt for government subsidisation. In the aim to equal out existing inequalities between the groups, the GoI instated the prevailing reservation system or quotas for the lower strata for seats in colleges, government- and quasi-government jobs with favourable promotion structures, relaxation of marks to enter colleges in competition with the GC category and seats in Parliament roughly equivalent to the castes' distribution in society (Das & Dutta 2007). In present day Tamil Nadu, the reserved seats amount to 50% of the seats in colleges for the low castes, with group-wise differences within the disadvantaged groups (BCMBCMW 2016, 2016a). The level of subsidisation relates to a combination of income and caste, and biometric methods are used to monitor the benefit distribution. The reservation system is the cause of currently volatile debates due to transformation and upward mobility within the lower strata, and the hereto-connected "creamy layer", that because of political corruption and nepotism harvest the benefits of the quotas (e.g. Kannabiran 2006; Ramachandran 2012; Wikipedia 2016). Moreover, political corruption and political party interests in Tamil Nadu have resulted in outspread exploitation of the slum dwellers as 'vote banks' in return for 'freebies' or cash (Hiddleston 2011).
Despite institutional caste categories being static, the sub-groups are fluid; an elaborate list of their geographical location and group names are registered by the TN government (BCMBCMW 2016b). Caste affiliation is revealed in names and still evident in the social structures of society, as well as in legislation.
Historic gender inequalities have resulted in poorer educational outcomes for girl children, that still prevails on national and state levels, despite advancements and rising literacy levels (Ramachandran 2003:4). Embedded in patriarchal family norms, women's life cycle deviates from the men's when entering into predominantly caste-based, endogamous arranged marriage, in opposition to the tabooed 'love marriage'. The government thus intervenes in relation to the leaps from education to job, i.e. from opportunity in education toward occupation, and from birth toward education as pictured in the model. The slum dwellers can qua the model be understood as creators of and created by the enabling and constraining structures surrounding them.

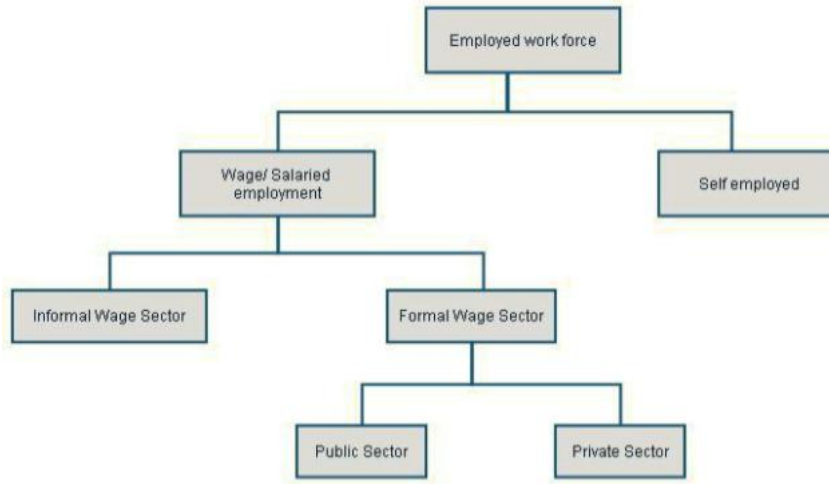
Occupation

The concept of *occupation,* include both an individual and structural level, representing the occupations related to the slum dweller segment as well as the occupational structure, which both are affected by the long-time inscription of caste into Indian stratification.
Access to occupation is part of opportunity through e.g. education and mobility as pictured in the above model. A historic division of labour has resulted in occupational inequalities related to caste:

> *"The role of caste in the labor market is of particular salience since caste is founded on an occupational division of labor, with Brahmins engaged in intellectual and priestly pursuits, Kshatriyas in martial pursuits, Vaishyas in trading and Shudras in stigmatized manual occupations. An elaborate ideology of purity and pollution of occupations provides the rationale for the existence of this division of occupations. (…) Caste in India therefore is the primary source of stratification and responsible for a host of outcomes even after controlling for other factors."* (Das & Dutta 2007:2)

The then Dalits or 'Untouchables' who fall outside the four caste categories were traditionally occupied with culturally perceived impure occupations (Das & Dutta 2007:11). This group roughly translate into the modern-day SC and ST groups, which constitute large fragments of the slum populations. The

historical labour division imposed on the low caste groups have resulted in a large, persisting informal sector, that in urban areas amount to 70% of the workforce on national levels (NSSO 2004-5; Naik 2009:5ff) The model below shows the classifications of the Indian labour market, to picture the occupational division of the slum dweller group (Jain & Sarda 2014:5).



Source: Jain & Sarda 2014. Job markets that work: Challenges of match-making in an emerging economy.

The occupations of slum dwellers and low caste groups predominantly fall under the *informal wage sector*. Traditionally, caste divisions lead to occupational inheritance, constraining the individual's ability to mobilize (Thorat 2007:2). The *public sector* positions are accessible through quota by lower caste individuals, as a reaction to the segmented occupational sectors. Government quota jobs equals benefits and are thus highly sought-after. Urban poor and lower castes also partake in the *self-employed* segment through MSME (Micro, Small, & Medium Enterprises) in the form of e.g. small grocery shops, auto rickshaw driving, of which the SC group constitute 7.6 % of the proprietors of an MSME (Ministry of Micro, Small & Medium Enterprises 2015). Due to historic unequal occupational division and blocked access to certain positions rooted in caste discriminations, the lower strata are grouped into low-paid, manual jobs (Das & Dutta 2007). The gender inequalities of slum dwellers reappear in the internal division of work within the lower classes, with certain occupations strictly female or male, such as housekeeping and auto rickshaw driving[5] respectively. Traditional patriarchal family norms moreover requires the female to the role of housewife, while the husband is the breadwinner, which causes higher unemployment rates among women, evident in the 2011 census of SC of Chennai District (Directorate of Census Operations 2011:239).

However, transformations caused by revolution in the IT sector with the liberalization of foreign investment policy, and an increasingly outspread access to ICT means, that: *"... the economic balance is shifting from land and manual labor based production in villages to capital and knowledge-based production in towns and cities.*" (Jain & Sarda 2014:1). The IT-BPO industry of India employs 3.7 million people with revenue of USD 143 billion in the fiscal year of 2016 (NASSCOM 2016). The IT industry and the jobs within large international companies thus signal wealth and status, and are highly sought-after especially by the aspiring workforce. Ongoing formalization of education for the lower strata, enabled by the reservation system, has for one pulled millions toward the cities, and provided the segment theoretical access to occupations exceeding their parents', for example within the ICT sector. However, some research indicate a persistence of "*glass walls*" and "*glass ceilings*" (Das & Dutta 2007) blocking the lower strata's access to and mobility in occupation, especially within the private job sector (Siddique 2008; Thorat & Attewell 2007).

With the intent to formalize the workforce and restructure the traditionally informal sector, the GoI has introduced "Skill India" scheme of 2015 under Prime Minister Narendra Modi. The scheme predominantly targets the low castes, whereof many are early dropouts, without formal certificates to e.g. carpentry, a profession traditionally passed on from generation to the next. The focus on skill and

5 No rule without exceptions: the TNSCB have initiated a programme for female auto rickshaw drivers, and according to data from the 2016 Job Mela in resettlment area Kannagi Nagar, a few men stated their job request as housekeeping.

vocational training thus stems from issues of poor quality in education consequently resulting in problems with employability.

Information and communication technologies

The concept of information and communication technologies, ICT, is here considered a phenomenon affecting job markets, education, policy-making along with expectations and aspirations toward occupation. ICT also represent devices, such as *cell phones, smart phones* and *laptops* as commodities for practice in socialising, workplace, information seeking, entertainment etc. In that regard, use and know-how with the internet plays an important role. ICT, similarly to the concept of occupation, influence upon both individual as a consumption commodity and structure as act on occupational structure including the related expectation to ICT in jobs.
The GoI and the IT industry ascribe growth and human development to the impact of ICT in India that since the late 1990s have experienced great advancements. The growth and success within the IT sector as NASSCOM's numbers show, indicate the rapid expansion and productivity of the sector, yet due to the inequalities in the occupational division, it seems difficult for the lower strata to penetrate the sector.
As a consumption commodity, the access and use of ICT is outspread amongst all strata, which leads to the popular idea that every one owns a phone. New developments within ICT has made devices inexpensive; an example is the 2016 launching of the world's cheapest smartphone at 250 rupee (app. 25 DKK) (Economic Times 2016). Technologies, such as smart phones, are popular amongst the younger segment as both an entertainment and workplace device. Also, policy efforts have been instated to overcome the stratified income inequalities related to consumption of ICT. The AIADMK party of Chief Minister Jayalalitha, introduced the "Free Laptops" scheme (2006) for the low castes of Tamil Nadu based in the perception of ICT as a means to alleviate poverty and equal out the income gap between the castes. However, due to issues of political vote banking, such schemes can be criticised - also for creating a skewed incitement structure.
The schemes indicate that know-how and practice with the technology in itself is beneficial for the individual. Thus, lack of practice with ICT can be understood as a constraint that places the individual in a disadvantaged situation compared to those who possess the know-how. Practice with the Internet is also necessary to compete in the IT industry, amongst others, and in terms of information access and seeking.
The unequal distribution of access to technology is referred to as "*digital divide".* The divide serves as an obstacle for the "*perceived opportunities*", but is further complicated by the risk, that the rapid developments within the ICT sector results in a large group low in the resource hierarchy, to not keep up.

> *"… That even to the extent that access is* [to ICT, red.] *available, inadequate education would ensure that the majority would not have the competence and the confidence to participate in the transformation that the technology is likely to effect in the work practices and lifestyles of the urban and rural elite. Finally, even as access grows, the rapid changes in ICT and its use would result in many with initial access falling behind in their ability to continue to use the benefits of the technology."* (Chandrasekhar 2001:29)

Even if access and know-how is granted, the rapid changes in the ICT devices and sector, means that those with the most resources will be able to overcome "*technological illiteracy*" and the rephrased "*learning digital divide*".

In other words, the ICT device only has potential, if the individual knows how to use it; ICT devices are not valuable in themselves, despite the perception and portrayal hereof. At the policy level, it is assumed that ICT can directly aid in the life cycle leaps, e.g. from education to job. The concept of ICT is regarded both as an enabler and a constrainer on structural and individual levels for the lower strata.

Theoretical perspectives of Pierre Bourdieu and Manuel Castells

Below the theoretical perspectives of sociologist Pierre Bourdieu and Manuel Castells will be presented in short as they constitute the main theoretical framework of the study. Their theoretical perspectives and tools have added to the analytic interpretation of the concepts, especially in terms of the structural traits related to slum dwellers, occupation and information and communication technologies. Both sociologist have extensive works behind them, thus the following will include the concepts for analysis used in this dissertation, that will be further elaborated in the later sections.

Space, naturalisation effects & symbolic violence

One of the main tools from Pierre Bourdieu's vast legacy used in this study is his understanding of social space and physical space:

> *"Social space translates into physical space, but the translation is always more or less* blurred*: the power over space that comes from possessing various kinds of capital takes the form in appropriated physical space of a certain relation between the spatial structure of the distribution of agents and the spatial structure of the distribution of goods and services, private or public. An agent's position in social space is expressed in the site of physical space where that agent is situated (…), and by the relative position that their temporary localizations (…), and especially the permanent ones (home address and business address) occupy in the relation to the localisations of other agents"* (Bourdieu 1999:124)

Important for the analysis is Bourdieu's concept on the *naturalisation* of the social world as way to become part of the structures surrounding us (Ibid:124). The concept of naturalisation along with perspectives of *symbolic power* and *symbolic violence* aids in the comprehension of the role of caste in contemporary Chennai and how the two concepts can go by seemingly unnoticed. The concepts also relate to the interpretation of the research question on policy level.
Bourdieu's *forms of capital,* that involve *economical, social, cultural* and *symbolic* (Bourdieu 1986) provide a framework that help position the urban slum dwellers as a social group in comparison to surrounding society. The combined amount of capitals and the *tendency* of groups to have similar practices, taste and consumption patterns results in the notion of *theoretical classes* and *social fields* (Bourdieu 1998:9).
The social spaces or fields exist in its relativity to other fields and take a hierarchical form, which constitutes the background for interpretation of the caste as a *theoretical class* or 'real', which Bourdieu disputes while arguing that the social fields made up of distinctions are what constitutes classes as not mobilised, but from a tendency for people to have similar practices (Bourdieu 1979:169).

The Network Society and urban transformations

Manuel Castells understanding of ICT in what he defined the Information Age and the Network Society referring to 21st century societies, information and communication technology has radically changed the constitution of the worlds societies, especially in terms of social communication practices and the urban spatial geography of cities, whose development is directly influenced by *the space of flows*

(Castells 2003(1996)). The flows are "*not just one element in the social organisation – they are expressions of the dominating processes in our economical, political and symbolic lives."* (Castells 2003:381). Thus, the network society in a city like Chennai that make out a large node amongst other megacities also affect the urban slum dwellers. Castells argue, that because the global leaders and managers have power over the space of flows, they indirectly have power over space, which according to Castells creates a "*social double mechanism*" in society where the elites are global and the masses are local (Castells 2003:382). Similarly to Bourdieu, Castells understand the spatial as an expression of the social:

> *"Spatial transformation must be understood in the broader context of social transformation: space does not reflect society, it expresses it, and it is a fundamental dimension of society, inseparable from the overall process of social organization and social change. Thus, the new urban world arises from the formation of what I have analyzed as the emergence of a new society, characteristic of the Information Age, as a result of the interaction between the information-technology revolution, socioeconomic restructuring, and cultural social movements"* (Castells 2002a:11)

The social transformation mentioned go into the interpretation of internal differences among the slum dweller group, as ICT and the transformation brought about in the educational and occupational fields in India. Moreover, the spatial as an expression of society becomes an important point in the analysis of the slum and its dwellers. Castells argue that the *crisis of the cities* ultimately depend on urban governance, which in the Chennai situation has problematic implications.
Castells presents perspectives of both the *structural changes* that ICT and the Network Society have caused, and how the fundamental changes in the introduction of ICT have affected sociality and work organisation on people's lives around the globe – and ultimately in the context of urban slum dwellers in Chennai (Castells 2003(1996), 2002a, 2002). The Network Society and its focus on ICT and knowledge-based production, along with the powerful "*cosmopolitan elite*" seem indicative of aspirations and expectations to the potential of ICT in the slum dwellers individual life, and also have direct implications for policy (Castells 2003:382). Castells concepts allows for an interpretation of the slum as a place in the Network Society and how the emergence hereof relates to the processes of urbanisation and globalisation the novel advancements in information and communication technologies bring about in a development country context.

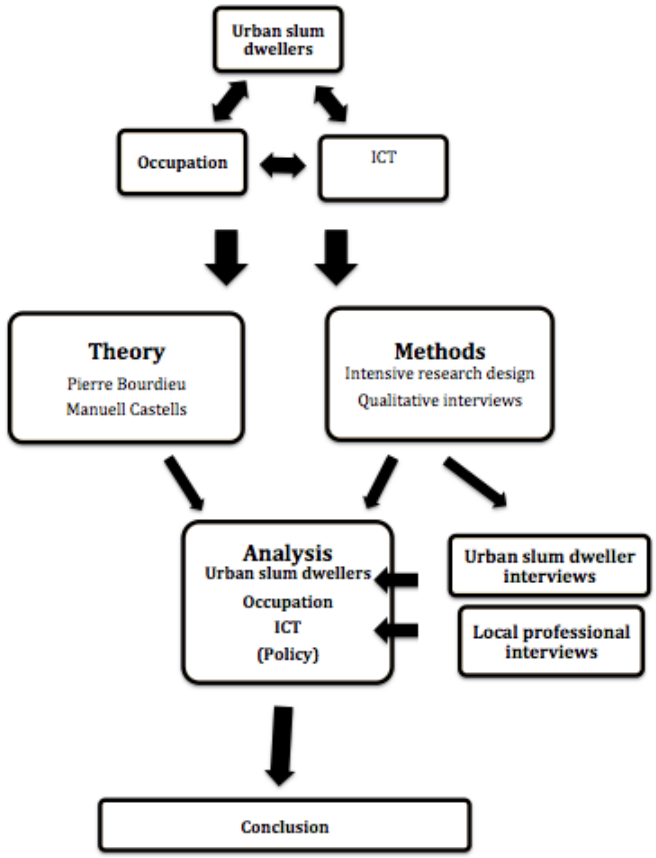
METHODS & METHODOLOGICAL CONSIDERATIONS

This chapter aims to clarify the design, methods and methodology behind this qualitative case study. Considerations on the exploration and approach to the *intensive research design,* that form the strategy behind the study of the urban slum dwellers will be presented. Explanations on the qualitative interview methods and descriptions of the informants, which include 22 slum dwellers and 4 local professionals, along with a discussion on accessing the field of the slum will be presented. The final sections will deal with morals and ethics related to the research situation of underprivileged, and an explanation of the philosophic scientific outset of the study.

The qualitative case study

The qualitative case study is the foundation of this study. The research takes its outset in a single case of urban slum dwellers in Chennai with respect to their occupations and practices with technologies (ICT) and how that influences their job opportunities on micro and macro levels. The approach to explaining the research questions involved conduction of 22 structured qualitative interviews with slum dwellers of the inner city slum area, Nakirar Nagar, along with 4 open interviews with local professionals who each represent knowledge and in-situ experience from Chennai slums.
The initial outset was of explorative nature and the interests and curiosity related to occupation and ICT amongst the slum dwellers of Chennai emerged qua prior slum visits and interviews, albeit with a different focus. The theoretical perspectives of Pierre Bourdieu and Manuel Castells described in the above are thus results of initial interpretations of the material at hand, and function as a framework behind the analytic concepts developed in order to help explain the relation between the urban slum dwellers, occupations and the role of information and communication technologies. The concepts form a triadic in a dialectic relationship. The aim is to explain the expected interrelations between the concepts and generate empirical knowledge that could be helpful in the efforts to better understand central fragments of the living conditions of the urban slum dwellers of Chennai, and possibly India in general.

Model 3



The figure (3) pictures a simplistic research model behind the study and how the different steps lead to the other. The model also aims to show, that the theories of Bourdieu and Castells are not integrated into the methods, but as tools to clarify analytical points and generalisations.

Qualitative case studies usually aim to understand a complex, social phenomenon as part of a larger social context (Yin 2013; Antoft & Salomonsen 2007). In order to explain the case, the researcher also has to take into account its relativity to the surrounding world. In that sense, the case study aims to give a holistic explanation of a fraction of social reality. Those characteristics are applicable here, where urban slum dwellers of Nakirar Nagar represent a larger group of urban poor in Chennai and how this societal segment relates itself to surrounding society in terms of occupation and ICT as part both structure and practice. This study can be regarded a "*representative case*", because of the aim to describe the slum area, not as "*extreme*" nor "*critical*" (Antoft & Salomonsen 2007: 44-45), but rather as an example of the slums in Chennai and something not radically unalike other slum areas, besides from local, micro level differences.
This study is not based in a hypothesis, as many case studies usually are, but rather in a critical questioning as to whether the ICT as an aggregated concept or phenomenon, really has the potentials that the e.g. Indian government ascribes to it. Rather, the sub-questions that translate into sections of the analysis, function as guides and to explain the overall research question.
When dealing with qualitative case studies the "*boundaries*" between the phenomenon under scrutiny and its context is not clear (Ibid. 2007:53). That calls for a design that allows those factors to be part of the process; in other words, a pragmatic approach to one's field (Antoft & Salomonsen 2007:33; Halkier 2001). This, and the construction of the triadic concepts as "open" is in accordance to what Halkier considers requirements for an *intensive research design* (Ibid.:44), that aims to systematise the exploration of the case and the flexibility of its concepts.

The intensive research design

The research design of this thesis is inspired by what Halkier addresses in her article "Can pragmatism be analytic? The study of environmental considerations as an example" (2001) as the *intensive research design* (43ff):

> *"… [The] intensive research design goes in-depth with few units and many variables that provide a better understanding of specific relations. (…) The intensive research design functions flexibly in its process and works with open, context sensitive and reflexive theoretical concepts and empirical methods."* (Halkier 2001:43-44, my translation[6])

In intention to understand how the urban slum dwellers are implicated by information and communication technologies regarding occupation, the concepts in terms of analysis demanded openness, because the aim was to gain a 'holistic' understanding of the relations between the concepts and how they can be understood as part of Indian or Tamil Nadu society. In order to stay open to unexpected findings, the context sensitive concepts were necessary, especially in a different country-culture context, where the boundaries of the field at hand were unclear. The research design is thus a result of considerations of how to approach an apparent issue with many unknowns, as well as many variables and perspectives that relate to investigating into urban slum dwellers. The triadic concepts are open to the individual perspective of the urban slum dwellers as well as the structural, and the concepts are saturated in the sense that many other factors are part of other social complexities, for example inequality, poverty, and policy levels and government interference, which became continuously evident during the process of the research.

6 Quotes from Bente Halkier's article are all my translations from Danish to English.

As Halkier also explains about the design, the knowledge and information on the subject field accumulates, hence understood as a *flexible process* rather than a static understanding of one's concepts (Ibid. 2001:44). Similarly, it was expected that in the Chennai-context, the research would be a process that would lead to new questions about the group of slum dwellers, along with information from the local professional's interviews as part of the design, and the distance to the field. That necessitates the inclusion of other empery or theory to enlighten and understand relations seen in the study, which became evident in for instance, the relation between traits of the interrelation between caste and occupation. Also, the theory choices indicate the theoretical perspectives chosen to clarify patterns and relations in the material, which in the case of Bourdieu and Castells related to tools to show e.g. structuralisation and naturalisation effects and the Information Age's impact on the slum dwellers of Chennai in terms of the urban spatial transformations and the slum as a place in those transformations. The openness of the concepts allowed for other implications on the urban slum dwellers' access to occupation to appear, based in the questioning as to whether or not the role of ICT could really be that influencing upon the slum dwellers occupations in terms of education, access and mobility in an already unequally stratified society. The theories and the empery previously described thus express the processuality of the research and design. In the process, the research sub-questions thus became more specific as more information on the concepts was accumulated.

Pragmatic analytic approach

The intensive design moreover results in a certain analytic approach, hence the title's question as to if analysis can be pragmatic. Halkier identifies steps in her analysis that relate to different methodological and philosophic science directions. Importantly, she does not refer to pragmatism in terms of ontology nor philosophy of science in her analysis, but as an approach (Ibid.:49). The four steps Halkier explains can be placed in a "*continuum of intermediate positions*" and points to the continuum as different chronologic steps one takes in the interpretation of data material: firstly phenomenology, hermeneutics, social constructivism and lastly critic realism (Ibid.:45-49).
Although the pragmatism is not meant to express this study's conception of the philosophic science direction nor as the ontological base, the pragmatic approach can be discussed in terms of epistemology as directly affecting on to the analysis and the knowledge produced.
The steps can be understood as a result of the aim to interpret the contextuality and embeddedness of the social phenomenon studied in its surroundings. The approach allowed for an abductiveness, so that in the initial stages after conducting interviews and gathering data, the findings would be continuously interpreted in the relation to empery, theory and data regarding the findings. The difficulties, as probably with most case qualitative case studies, lies in the question of when "enough" material is gathered to properly explain the phenomenon, which eventually comes down to the researcher's judgement, when working with concepts that are context sensitive.
The approach is not to be interpreted as a dictation of step that goes from one philosophic science position to the next, but as a way to control and systematize the exploration that the flexible, contextual concepts demand, and the eventual comprehension of how they interact.
This research intended to clarify and explain the research questions from the perspective of the slum dwellers, to an understanding of the governments policies, which enable or constrain their opportunities of action. That expresses a motion from an individual to a structural level, in which the pragmatic approach offered a not overly static interpretation of the concepts; if the concepts, that entail large, singularly complex concepts such as inequality, social exclusion which are traits already ascribed

to the slum dweller segment, are kept very closed initially then the research will not discover anything new empirically (Halkier 2001:44).

Due to differences in research subject and field, the contents of the steps diverge from Halkier's study, for instance when she refers to language as part of socially constructing the research situation, it here became matter of the social construct in the situation as my role as a foreigner in a slum setting, which radically affected the slum dwellers' actions in the situation. As will be discussed in following sections, knowing that the slum dwellers would be affected by my presence also added to the design of the questionnaire as predominantly structured, with mostly closed response categories. Thus, the qualitative life-world interviews and ethnographic methods that is funded in phenomenology, differs here because that type of interview would required language skills, resources and time – and a willingness from the individual slum dweller to participate in interviews of such longitude.
In other words, complications related to methods and methodology were anticipated prior to the interviews in Nakirar Nagar due to prior experiences.
The intensive research design proposes 'empirical methods', which for this study are qualitative interviews, for slum informants structured, and open regarding the local professionals who will be presented in coming sections.

Data descriptions and qualitative interviews

The following will present a description of the data gathered and of the two types of qualitative interviews this study entails: a structured questionnaire-interview guide for the 22 slum dwellers, and the open interview guide regarding the four local professionals. Both interview types are structured based on the aforementioned triadic of the *open concepts*, as per the research question and to create comparability between the statements of the slum dwellers and the local professionals.
Furthermore, descriptions and considerations on the process of data collection, e.g. the access to the urban slum dwellers along with limitations in the data material will be assessed.

Informants' descriptions

Over the course of two days interviews with 22 dwellers from Nakirar Nagar in the age group of 18-35 of both genders were conducted. Criteria were that the informants were within the age group[7], and the aim was to gather around 20 informants preferably with an equal gender distribution. The 22 and information on demographics, name, employment, job and education and the caste category they belong to:

7 Two informants, Valli and Ishwari fall out of category, as they are 38 and 39. Due to matters of time, resources and difficulties in collecting informants the two were accepted as part of the informants, as it was assessed that the age gap was not that substantial in terms of life cycle difference in comparison to e.g. Senthamarai of 35. Moreover, the women had come all the way for the interview, thus turning them down felt wrong.

Table 1

Name	Age	Gender	Civil status	Caste	Job
1. Helenmaria	18	Female	Unmarried	BC	No
2. Swathi	20	Female	Unmarried	SC	No
3. Amirtaha	24	Female	Married	SC	No
4. K. Sumathi	25	Female	Married	SC	Yes
5. Vaishnavi	25	Female	Married	BC	Yes
6. Vasanthi	26	Female	Married	MBC	No
7. Devi	30	Female	Married	SC	No
8. Ganga	33	Female	Married	SC	No
9. Sangeetha	33	Female	Married	SC	No
10. Amul	34	Female	Married	SC	Yes
11. Senthamarai	35	Female	Married	SC	No
12. Valli	38	Female	Married	SC	No
13. Ishwari	39	Female	Married	BC	No
14. Jarald Joseph	18	Male	Unmarried	BC	No
15. Raj Bharat	18	Male	Unmarried	SC	Yes
16. M. Yogesh	19	Male	Unmarried	SC	No
17. Vengat	21	Male	Unmarried	BC	Yes
18. Murali	22	Male	Unmarried	SC	No
19. Ramraj	24	Male	Married	SC	Yes
20. Kiruba	25	Male	Unmarried	SC	Yes
21. Sentimental Kumar	28	Male	Married	SC	Yes
22. Loganathan	31	Male	Unmarried	SC	Yes

The defined age group deliberately stretches over different life cycles, both as a matter of design to gain a varied picture of the group and also with the intention to spot differences among the different life cycles or stages, in accordance with the model on drivers of inequality shown in relation to the concept of urban slum dwellers. Based in knowledge on educational and occupational transformation, the different ages aimed to picture both employed, unemployed and students, that at the age of 18 would be expected to have finished higher secondary school or 12th standard, if not dropped out and thus not be eligible for college. The top bar of 35 was set in order to aim for the younger segment that will be the future workforce, and to allow differences among the younger and elder individuals to stand out, for example regarding possible advancements in education levels among the group, thus outcomes in terms of occupation, and to see for differences with the use of ICT, as it is anticipated that the younger segment would have more interest as well as better access and know-how to use ICT.
The considerations on life cycle particularly concern perspectives on gender. Due to the previously mentioned inequalities among the genders, the women could also be expected to have lower education levels than the men and due to a patriarchal family structure, more likely to be housewives, thus unemployed. Ultimately, married life and children were, for the women, expected to result in less chance of employment. Moreover, the female would enter into a subordinate position toward her husband, also in terms of the household expenses, thus less likely to consume of ICT devices.

The unemployed individuals may not shed light on how ICT implicate on occupation, unless perhaps from previous jobs, but they can show the use of ICT in daily life. Also, they add to interpretations of the general occupational situation among slum dwellers.
The informants were asked to their caste category based in knowledge, that caste is a life-chance affecting circumstance, also vital in the interpretation of policy.

The questionnaire-hybrid

When the interview guide for the slum dwellers is here named a questionnaire-hybrid, it refers to a questionnaire with many closed-categories response categories, yet conducted in a qualitative manner. The questionnaire was set up in the online[8] survey-platform 'Google Forms', in order for the slum dwellers to follow the questions on screen during the interview and allow explanations and elaboration of questions in the attempt to secure the validity and reliability of the replies. Moreover, the use of technology in-situ allowed a sense of the informant's skill with technology, though not an observation that will be drawn conclusion upon. With assistance from E. Elankumaran, Field Executive from the IFMR office[9] the questions were translated from English to Tamil, so both versions would be visible on screen in an attempt to overcome language barriers and an expected uneasiness with the interview situation for the informants.
The Google Forms generate an Excel output with both closed category replies as well as the open category questions; ergo, the interviews were not audio recorded. The questionnaire-hybrid is not to be seen as an attempt to quantify the responses, but as a compromise based on considerations regarding how to 'best' approach the specific group. The Excel sheet data can be found as Appendix 1, also including a link to the Google Forms questionnaire. Anonymity matters were not discussed with the dwellers, but they were made aware that the information was for study purposes. There is no compromising information in the interviews, but to secure the anonymity of the respondents phone numbers and email addresses of the informants who had either or both have been removed from the Appendix 1.

Besides from the demographic descriptive questions presented in Table 1, the approximately 45 questions in the questionnaire also relate to the concepts of ICT and occupations, and inquiries as to how the slum dweller personally considers his or her use of technology, both in daily life and in the workplace given that the individual is employed or has been employed. Questions related to income levels and length of residence in the slum aimed to shed light on possible difference amongst the slum dwellers and if current urbanisation tendencies were evident among the informants. The slum dwellers were specifically asked as to (or about) their practice with different ICT devices: *smart phones* and "simple" *cell phones, laptops, tablets,* and *(stationary) computers,* and whether they had ownership of a device or merely access hereto. Their own perception of ability to use the *Internet* was inquired to, as it is understood as a central skill in relation to modern ICT practice, which the simple *cell phone* does not present. Also, their personal interpretation of English skills was asked to, as the English skills are vital in the use of smart technology and internet use. Television, which largely everyone living in Chennai slums owns[10], has not been a device inquired about in the questionnaire-interview, as its ability to

8 Internet or wi-fi access is rare in the slum areas of Chennai, thus accessed by hotspot to my personal data package.
9 The IFMR LEAD, Institute of Financial Management and Research, Chennai office has facilitated my stay in India qua prior studies as an intern for the Danish NGO, Action Child Aid, producing an evaluation report of sponsorship children programme through visit to the children in urban slums and rural areas through the different partner organisations based in Tamil Nadu.
10 The former leading communist party, DMK, at present with leader Stalin (!), introduced the "Free Colour TV" scheme of 2006.

communicate is very one-sided[11] and not the focus of the study. However, it is acknowledged, that the information a TV provides and the effect the media in general has on people's perceptions and opinions impact the individuals' everyday lives.
Question entailing reflection, for example: "Do you think you have had more options [in terms of jobs] than your parents?" had a combination of response options, both locked reply-categories and the possibility to add details. The aim was to avoid too many "I don't know"-replies to more reflection-demanding questions. Also, questions were composed with everyday words, to not sound overly academic and give the informants a feeling of alienation.

Methodologically, the role of the questionnaire is central in qualitative research because the manner in which questions are composed and verbalised in the interview situation, directly affect the responses, which ultimately have implications on the scientific knowledge produced. Thus efforts to assure the interview and questionnaire quality are important, and demands transparency as to conduction. In the article "Roads to qualitative quality? On securing quality of qualitative interview research" (2003) Olsen discusses the use of qualitative questionnaires and considerations about both the role of questionnaires in modern sociological research and the issues in quality assurance related hereto. Criteria regarding "*communicative quality*" to the scientific field (p. 3) entails coherence and consistency in the methods used. Internal coherence in the overall design, analysis and thematisations are vital when producing valid and comprehensive research. In this study, the triadic conceptualisations are thematic denominators in order to create coherence between slum dwellers and local professionals, and also for the analysis and eventual conclusions drawn. However, the open concepts in the intensive research design caused complications due to their context sensitivity and eventual saturation, ergo the accumulation and interpretation of the concepts developed in the process. To overcome this problem as much as possible, it was continuously assessed what novel concepts and understandings were gathered during interviews and abduction; for example the current focus on skill training in the Chennai context was unknown prior to interviews, but constitute a central part of the educational structure for the slum dwellers and thus an important point for analysis. In result, the concepts' descriptions aim to include the entirety of the variables and factors that become central in the analysis.
The interview situation is regarded as a social construction in itself, because the interaction between researcher and informants affect the statements of the latter (Halkier 2001:43-44), thus causing problems of reliability. That particular problem is applicable in the encounter with the slum dwellers, as they can be considered "*subordinate"* in the terms of Hammersley & Atkinson (2007:42).
The presence of a white person, which is largely considered equivalent to wealth and authority by the slum dweller segment, stirred curiosity, and also a degree of intimidation, especially considering norms related to hierarchical structure in Indian sociality and their understood position herein. The skewed power balance of the interview situation thus demanded empathy toward the informants, and an attempt to make the situation 'comfortable', by e.g. using greetings in Tamil and ask questions slowly to not create further confusion for the informant.
The design of the questionnaire hybrid is replicable due to its very structured manner, yet the conduction hereof was expectedly a challenge, that without some awareness of the slums, not advisable. Issues of understanding and validity in the questions were later discussed with the assisting social worker, Rohini Reddy, who assessed that the questions were not misunderstood by the dwellers.

11 Besides the chance to "communicate" by voting with one's phone for talent shows, participating or other where one can send in an opinion or call to scientific programmes or news debate shows etc.

Accessing the field and the informant group

As indicated in the above, this qualitative case is not ethnographic in design, albeit certain traits and considerations in terms of the mode of accessing the field i.e. the slum area as well as interpretations of the group as subordinate, connote ethnographic issues.
Access to the slum and the informants was enabled through social workers Rohini Reddy and Sr. Agnes PA, who had been conducting field work, case studies and community programmes in the Nakirar Slum area for the past year. Consideration on which slum area to focus on was thus directly influenced by the places I could access. Due to the social workers' local knowledge in the particular area made the choice of Nakirar Nagar evident[12], also because the area was familiar from prior slum research.
Rohini Reddy and Sr. Agnes functioned as combination of "*sponsors"* and "*gatekeepers"*, (Hammersley & Atkinson 2007:49-52) which enabled entering into the slum due to their long-time presence in the area, and an earned trust from the slum dwellers. Reddy pointed to, that especially Sister Agnes (37) by her status as a nun gained respect from the community consisting of mostly Catholics and Hindus revealed by the Hindu temple in the area and the Catholic association room, were the interviews took place.
The first date of interview was a state holiday, the second a Saturday, to minimize the chance of possible informants working. However, the segment would be likely to work despite a public holiday, which may partly explain the higher number of unemployed among the respondents. The days planned for the interviews thus tried to overcome the issue of "*sensitive periods*" (Ibid. 2007:52), but was constrained by time resources of the two social workers, of whose help the slum access depended. For instance, returning two Sunday's in a row may have given a different gender division according to the aimed for equal distribution. However, as Table 1 suggest, less males, especially in the top end of the age group, may have been difficult to access regardless of date and time. At least two complications emerge: patriarchal family norms, where the husband would work and the wife (is expected to) stay home and take care of the children, household etc. Thus the husbands would be away for work and the unemployed females remain in the area. Secondly, alcohol abuse is an extensive problem among the male slum dwellers; an addiction starting as early as 5 years old[13], despite the taboo related to alcoholism in Tamil Nadu rooted in religious-cultural perceptions, thus a stigma the men are well aware is considered illegitimate[14]. As a result, they were likely to feel reluctant to interact and to the idea of confrontation with both me and in particular Sr. Agnes and Rohini Reddy.

Based on prior experience, it would be very challenging to preschedule interviews with the dwellers, as communication despite outspread access to cell phones can be troublesome, and the scheduling of one's time is not similar to what could be expected in a western context. Meaning, that before entering Nakirar Nagar I didn't know the group of respondents, which was a premise in terms of the methods and design. Reddy and Sr. Agnes with the help of the local children, that were very eager to observe the interviews, helped collecting people to come for an interview after they had been given instructions about the age and preferred gender. Personally collecting the informants were for reasons of time, language barriers and un-familiarity with the family or individuals not possible. The process seemed messy and entailed an open and somewhat pragmatic approach to gathering the informants, which was necessary for the interviews to happen in the first place. The uncontrollability of the process is

12 The Santhome slum area or "Dooming Kuppam" (Kuppam is Tamil for 'slum') situated on the sea shore, and largely fishermen's families was also considered as the subject field.
13 Based on information from Rohini Reddy, Ms. Princy, Head of Shanthi Bhavan Social Welfare Centre and other previuosly encountered NGO's. To quote Ms. Princy: "One in a thousand does not drink" (Pedersen 2016:31).
14 Alcohol is not illegal in Tamil Nadu, yet due to Hindu religion prescription it is conformatively considered illegitimate. However, banning of alcohol was a volatile topic in the 2016 Chief Minister Elections in Tamil Nadu.

comparable to Hammersley & Atkinson's account on the issues of ethnographic research, where the researcher may have to deviate from the original research plan or design (2003:46-47).
Added to that, the ethnographic approach entails consideration on whether informants will agree to participate in an interview or not:
"… a testing out of the researcher to see whether he or she is genuine and can be trusted, and perhaps also whether being researched will be interesting or boring" (Ibid.:2003:46). The informants were unaware of who they were to be interviewed by, yet probably informed by the person collecting them; part of that process is thus unknown in terms of who and where exactly the informant was found[15]. It is likely, that some may have refused due to time limits or discomfort with the idea. Some informants needed convincing according to Reddy and Sr. Agnes, which resulted in moral questions on whether the method was too intrusive. Naturally, there was no force, but due to the subordination of the slum dwellers' positions they may have felt obliged to participate. Reversely, some informants were quite excited about participating in an interview, yet eventually appeared a bit disappointed as questioning into work, phones, laptops, income levels etc. might have been less interesting than what they hoped for. Prior to the interviews, it was considered if those agreeing to participate would be of more resourceful backgrounds, yet based on the eventual findings the traits of the dwellers in terms of education etc., it did not seem so. Only indications of higher income levels among some of the informants compared to previous encounters with sponsorship families in the Chennai slums was found, yet the latter may be sponsored due to particular deprivation. Moreover, the expenses of each household are unknown due to limitations in the length of the questionnaire, which gives merely an estimation of disposable income, which is likely to not be precisely known by the individual slum dweller.

Limitations in the data material

The combination of an ethnographic approach to the slum dwellers and a structured, not in-depth 'life-world' questionnaire causes some limitations in what can be interpreted and assessed on that background. However, the specific method was seen as a premise to qualitatively be able to interview the slum dwellers. In-depth analyses of transcribed statements of the slum dwellers are thus not possible, rather there can be pointed to traits and denominators amongst the group of dwellers.
The slum dweller segment, as the above expresses, is socially distant from a formal interview situation. The slum dwellers are a socially stigmatised group and have less access to formal education and have a higher school drop-out rate, which results in confusion with the situation. At times, it was doubted whether or not the informant understood the question, for instance Jarald Joseph (18) that says 'no' to having 'experience' with a smart phone, yet uses it with his friends for applications etc. Thus, it expresses a certain inconsistency in replies. In an attempt to secure validity, several questions were related to others to make possible an assessment of the replies' actuality. The issue was discussed with the social workers, whose assessment was that the slum dwellers did understand the questions due to Tamil translations.
The inconsistency of the replies is seen among a few slum dwellers, but whether that is an expression of methods, interview conduction or confusion from the informants' part is hard to say. Yet, it is important to be aware of in the analytic interpretation of their statements, which may result in limitations of what can be derived from the data. Also, some questions for instance about spouse's occupation, were specified more by some informants than others, which is a combination of problems in the interview conduction, as the informants should have been asked to elaborate, but because the question was at the

15 Except for the informants naturally living in Nakirar Nagar

end of the interview guide, some informants were anxious to leave and in the situation it felt insensitive to force them to stay.
Another limitation regards use and practice with ICT in the sense, that the study does not entail behavioural tools for analysis, which would have demanded a different design. Thus, when asked how they use their devices or when on the internet, i.e. their behaviour, it is not an action-based observation, but their reflection and description, that makes it difficult to assess a scale of their know-how, for example with the internet.

Local professionals' interviews

The local professionals are part of the research design due to the above-mentioned expected access problems and limitations regarding the slum dwellers as a group. They serve as intermediate positions between the empirical knowledge found and the analytic generalisations based in theory.
The four local professionals interviewed in relation to the concepts are here presented chronologically according to time of interview. The questionnaires were designed based on the triadic concepts and entailed open question categories in order to gain deeper and nuanced statements from the interviewees, and allowing for questions occurring during the interviews to be further elaborated and inquired to. It was the intent to acquire local professional interviewees that could "cover" the concepts, and had different foci in their work with slum dwellers and urban poverty. More elaborate descriptions of the professionals and the interview transcriptions can be found as Appendix 2 and 3 respectively[16].

The four local interviewees are:

- Nirmal Raj, Social Worker in the Community Development Wing of the Tamil Nadu Slum Clearance Board. Primarily engaged in the resettlement sites and eviction of urban slum dwellers. Nirmal Raj's statements reflect primarily knowledge of the livelihoods of the urban slums dwellers along with schemes and policy implications, which also entail occupation and ICT. He represents the state government's understanding of the handling of the issue of slums.
- Rohini Reddy, recently graduated MA in Social Work from the Social Welfare Centre Shanti Bhavan[17] in Stella Maris College. Along with social worker and nun, Sister Agnes, engaged in fieldwork and community development for one year. Reddy's experience with the slum dwellers of Nakirar Nagar brings essential perspectives on the particular area and its inhabitants. Her statements relate mainly to the practices among the urban slum dwellers, critical views on ICT use, occupation and inequalities in the slum, also expressing issues relating to policy and sociality such as alcoholism and mentality.
- Pratibha Joshi, Associate Director at Institute of Financial Management and Research (IFMR LEAD). Engaged in projects relating to urban poverty and MSME, in which ICT function as a behavioural tool in business guidance and advice. The information provided by Joshi regards primarily occupation and obstacles in ICT practice among the urban poor segment of Chennai.
- Amanbir Sing, Research Coordinator at JustJobs Network, a global research institution within skill training, job creation and employment. Sing has been conducting research in Chennai and Tamil Nadu concerning skill training and employment, thus adding primarily to the

[16] Contact with a professor from the Indian Institute of Madras (IITM), related to the concept of ICT, was initiated, but unfortunately discontinued from his part.
[17]

understanding of the transformations in occupational structure, and the ICT influence hereon in terms of aspirations among the younger segment of urban poor.

Criteria of the local professional included he or she having had direct experience with the Chennai slums and urban poor, and preferably persons not too high ranking in a company/organisation were targeted. It was preferred to speak to persons with more hands-on knowledge at ground level within fields corresponding to the concepts, and due to issues of bureaucratic hierarchies within Indian institutions and companies, such characteristics were expected unlikely amongst higher ranking professionals.
Fewer issues were encountered in gaining access to local professionals. However, in gaining entry to the slum, the access to relevant interviewees happened in collaboration with help from seniors from the IFMR office and network (Rohini Reddy and Sister Agnes). That offered the opportunity to discuss personal backgrounds based on the criteria, and thus reach a mutual understanding of whose perspectives on the research questions would be most beneficial. Rohini Reddy is an exception as she and Sister Agnes PA are contacts prior to the study.
Initially, the hope was to conduct interviews prior to the findings in the slum in order to reconsider the questionnaire contents. Due to planning and the interviewees' time, that wasn't possible, which eventually gave me the opportunity to incorporate and reflect upon the findings from the slum interviews with the local professional I spoke to, except for Nirmal Raj whose interview was scheduled prior to the slum encounter.
All interviews have been recorded and transcribed in summary due to matters of resource and weighing toward that not all statements needed writing out in full detail. None of the professionals found anonymity necessary when asked. However, the government social worker Nirmal Raj and his superior at the TNSCB several times asked to secure, that the interview was for 'study purposes', and that I was not a reporter. Moreover, I here gained off record information that I was asked to not state.

The local professionals were less complicated interviewees compared to the slum dweller informants. Yet, in this relation, considerations on the social construct of the interview situation is important. The informants (naturally) added with different perspectives on the concepts, which are results of their personal and professional attitudes toward the field. As part of Indian society, their understanding of the subject field also reflect predispositions and internalisation of their social worlds.
Especially the interview with Nirmal Raj deviated from the others, as he was a government representative, with a clear focus on the efforts of the Tamil Nadu government toward poverty reduction, slum free cities and the attempt to give slums, in particular resettlement or eviction sites, sustainability in the process. As he did not deny the deprivation amongst the slum dwellers, the policies and other occupational and caste-based benefits were to some extent criticised by the others; a criticism also revealed in this study. Ultimately, the interview with Nirmal Raj became representative of both a deepening of the concept of slum dwellers, as well as a critique of the government interventions and policies.
Acknowledging the social construct of both an interview situation, and also the social construct into the interviewees' personal optics on the concepts here, ultimately means that the interpretations of their statements are based on their personal interpretations. Thus, the analytical interpretations hereof add an extra layer to the interpretation of the slum dwellers.
The four interviews function as a way of contextualising the study subject and as sources of information adding to considerations on generalisation and validation of the findings from the slum dweller interviews, yet with the reservation that the information they provide is not free of personal perceptions.

Analytic generalisation

As indicated in the intensive research design based on a single case of urban slum dwellers in Chennai, generalisation to other empirical findings are made based on *analytic generalisation* as a way to validate and explain the findings. Analytic generalisation can be seen as " …*previously developed theory [which] is applied as a template for comparison of the empirical findings*" (Antoft & Salomonsen 2007:49)[18]. The main theories generalised to in this study are those of Pierre Bourdieu and Manuel Castells whose theoretical perspectives of the social world is interpreted dialectically with the empirical findings, which is characteristic of the abductive process (Halkier 2001:44). The theories aid in the analysis of structural traits, which are difficult to deduce from a single case of slum dwellers. The local professionals' interviews function as a type of generalisation, in the sense that their knowledge of the field can be considered generalisation to an established network of knowledge on the urban slums, which is central to also gain the contextual knowledge of the phenomenon, that would be grossly absent without those perspectives.
The analytical generalisation is an expression of a social phenomenon's embeddedness into a context (Flyvbjerg 2006), which for the slum dwellers regard a context of existing inequality in occupation, education and access to goods, which comes to show in the urban space as the slum.

Analysis strategy

As initially described, the analysis is inspired by the *pragmatic analytic approach*. Here, it will in short be explained how the data and findings in a more practical manner have been categorised and eventually analysed. The analysis is a flexible process, and also a creative one especially in the case of context-sensitive concepts, and large amounts (or a large amount) of data, as is here represented by both the 22 slum dweller interviews, 4 summary transcribed interviews with local professionals along with the above mentioned theories to generalise.
In practice, the data from the slum dweller interviews was cleaned and each informant's statements were interpreted in relation to the others, to identify differences between the dwellers, for instance in terms of education levels and use of ICT. The mentioned inconsistencies were assessed according to other replies from the single slum dwellers. As explained, the question-categories contained locked reply categories with the option of elaborating upon the reply in open 'Other' or 'Please explain' boxes, where it was sensible, as for instance to the question of ever having felt discriminated, where the narrative behind was important. The statements were then interpreted abductively with the existing knowledge on the field, and the interviews of the local professionals.
The latter were categorised as per statements related to the concepts, and how the statements could be interpreted and assessed in relation to the other. For instance incoherence could be detected between the interview of Nirmal Raj and Pratibha Joshi, who present two different standpoints regarding the potentials of ICT for the slum dwellers.

Philosophy of science

Within modern social sciences it is often emphasised that, qualitative case study research cannot be context-*in*dependent (Flyvbjerg 2006:222), firstly because sociological research studies the world of which it is a part of and not as phenomena existing in vacuums, and secondly, researchers are also products of the social world, which has implication for their perception of it. Those perspectives

18 Quotes of Antoft & Salomonsen (2007) are all my translations.

necessitate clarification in order for one's research to be transparent, that the predispositions and perceptions are reflected upon. When setting out to study the social world the optic on e.g. how social change comes about (or why it doesn't) has implication on the scientific knowledge produced.
This research mainly draws inspiration from social constructivism, in which people's knowledge, sociality and change is a consequence of human interaction as per the classic work, *The Social Construction of Reality* by Berger & Luckmann (1966). The social constructivist direction as a way to create knowledge includes the risk of the *slippery slope,* in which everything is considered socially constructed and thus without essence. The position behind this research does not express an anti-essencialistic view of the world, rather a position in-between. The philosophy here is, somewhat in line with Bourdieu's understanding, that social action and world is part of a structuralisation and a reification of physical space, which thus implicate on our spatial surroundings. That somewhat leans toward the social constructionist perspective, in which artefacts and objects in our lives also have a way of defining and creating sociality.
Thus, the pragmatism the analysis demands, is not to be interpreted as the philosophic science position that this research takes its outset in.

Introduction to the analysis

The analysis aims to explain the overall research question of how the urban slum dwellers of Chennai are affected by ICT, Information and Communication Technologies, in relation to occupation. The analysis follows the structure of the four research sub-questions and will result in a fifth section, which attempts to discuss the findings on the links between the three open concepts of urban slum dwellers, occupation and ICT. Initially it was questioned if the many expectations to ICT as both commodities and a phenomenon affecting the occupational structure could really be met, when introduced into an already unequal occupational and social hierarchical structure. That reflection will be brought attention to during the analysis and in the final discussion of whether the introduction of ICT will become a "wing or bone" as Reddy put it; will ICT be enabling or constraining for the individual slum dweller.

1. SLUM DWELLERS AND OCCUPATION

This first part aims to explain research question one, "1. What are the slum dwellers' occupations and how does that relate to the existing occupational structure?" Thus, this section deals with how the two main concepts, *urban slum dwellers* and *occupation* are related, as an explanatory step prior to the findings and interpretations of the slum dwellers' practice with ICT in daily life and work sphere. The group expresses internal differences in education levels and occupations, thus expressing a divide between more and less resourceful individuals.

Structuralised inequalities and internal differences

The slum of Nakirar Nagar can, in line with other slums of Chennai, be understood as an expression of inequity and large 'social distances' within Indian strata. The slum and its dwellers can be understood in line with Bourdieu's notion of social and physical space:

> *"… in the most diverse contexts, the structure of social space shows up as spatial oppositions, with the inhabited (or appropriated) space as functioning as a sort of spontaneous symbolization of social space. There is no space in a hierarchized society that is not itself hierarchized and that does not express hierarchies and social distances, in a form that is more or less distorted and, above all, disguised by the naturalization effect produced by the long-term inscription of social realities in the natural world."* (Bourdieu 1999:124)

The emergence of the slum as spatially symbolising social space can be regarded as a consequence of what is here deemed *structuralised inequality.* The slums are not novel phenomena, and the slum of Nakirar Nagar has existed for decades, as is revealed in the slum dwellers' statements on longitude of residence in the area. Thus, the Nakirar area can be seen as being 'long-term inscribed' to the natural world, and a co-producer of the stigma related hereto. In line with the concept description above, the term 'slum' connotes homogeneity both in terms of sociality and physical structure. The slums are understood as specifically urban, that due to historical development and policies are situated in their specific places. "Modern" processes of eviction of the objectionable slums and its dwellers, as in opposition to Nakirar Nagar, an unobjectionable slum, seem to create hierarchies internally between slum areas, where the inner city areas provide opportunity for work, consumption, institutions etc., that the remote resettlement sites, to some extent, deprive the evicted individuals. Besides inequality, slums connote danger, precariousness, deprivation and therefore underlie what is similar to "*territorial*

stigma", the Bourdieu-deduced concept by sociologist Loïc Wacquant in relation to ghettos in western society (Wacqaunt 1996).

As the 22 slum dwellers reflect, the slums roughly translate into low caste[19]. The slum dwellers belong to mostly the SC, BC and a single person, Vasanthi, to the MBC, that are all categories entitling the individual benefits and reservations in for example college and public jobs as part of central government schemes, with local differences on a state governance scale, because castes despite their quite static categorisation in legislation, still exist as a social divisions in the population. The fluidity of the social caste division, where name and geographical setting are intrinsic traits of the groups, means continuing government monitoring of the groups; it is not possible to exit one's caste[20], as it is a preborn circumstance, but legislatively, individuals who come to higher income levels are *technically* not part of the lower castes entitled to subsidies, reservations and other government benefits.
The slums thus signify a low combination of forms of capital (Bourdieu 1986) compared to other groups in the existing Indian hierarchy and has been *naturalised* as a certain type of urban space, amongst both slum dwellers, for whom it is home of practices, sociality and every day life, as well as by surrounding society.

The structuralised inequality also comes to show in the historic division of labour based on caste affiliation, which make out the occupational legacy of the slum dweller informants. Yet, as a result of the transformations and advancement within education for the low caste groups, the traditional educations – that were likely to be informal inherited vocational learning[21] - are replaced by formal schooling and higher educations for some individuals within the segment, and eventually other options of employment.

Occupations and education

The following will take a glance at the educations and occupations of the 22 slum dwellers. It will present some important background traits of the slum dwellers and their occupations and educations in order to address following research questions. This allows a demonstration of the internal differences among especially the younger part of the informants as opposed to the elder, as well as gender and life cycle.

The type of occupations among the 9[22] employed vary quite a lot from informal sector work in housekeeping, strictly female work that requires no specific educational level, to formal sector jobs in banks across genders with bachelor's degrees. The remaining 13 informants are unemployed, whereof 3 are still studying; one male, Raj Bharat (18) is both studying and working and one female Vaishnavi (25) is on maternity leave.

The table below pictures the current occupational status and educational backgrounds of the 22 dwellers. The pink cells identify employment, the purple studying, the yellow unemployment and the blue a combination of studying and employment.

[19] Also documented in the transcripiton of the interview with Nirmal Raj.
[20] Unless an individual marries another caste, which for lower strata is still out of the norm; the sub-groups and the endogamy herein is quite intangible, especially in terms of who is a 'proper fit' in the planning of an arranged marriage.
[21] For example, within carpentry, formal vocational training would not be the norm – and still is not, which the efforts such as "Skill India" aims to change into formalised, certified training.
[22] The groups' overweight of unemployed is discussed in the Methods section.

Table 2

Name	Age	Job	Educational qualification
Vaishnavi (F)	25	Works with data entry at IDP Bank. On maternity leave.	BA in Public Administration
K. Sumathi (F)	25	Housekeeping	8th std.
Amul (F)	34	Housekeeping nearby	9th std.
Vengat (M)	21	Delivery boy for Anthony Tiles Enterprise.	10th std. (failed)
Sentimental Kumar (M)	28	Cheque collections at HSBC Bank	BA in Commerce
Loganathan(M)	31	Office assistant at a call centre, Info Network Management	10th standard
Ramraj(M)	24	Graphics designer. Advertisement for Sri Kumaran Thangamalikai Company	Animation Course, skill training
Kiruba (M)	25	Electrician, LNT company	Diploma in electronic, vocational training
Raj Bharat (M)	18	Student + Manager of 3 staff at Creative Light on Anna Salai,	BA in Commerce
Helenmaria (F)	18	Student	BA in Business and administration
Jarald Joseph	18	Student	Diploma in Commerce & Computer Science
Swathi (F)	20	Student	BA Commerce
M.Yogesh (M)	19	Student	BA Commerce (1st year) Mohammed Sathak college
Murali (M)	22	Nil	BA in Commerce. Graduated in 2015
Amirtaha (F)	24	Nil	10th standard
Vasanthi (F)	26	Nil	Master's Degree
Devi (F)	30	Nil	9th standard
Ganga (F)	33	Nil	7th standard or below
Sangeetha (F)	33	Nil	Bachelor's Degree
Senthamarai (F)	35	Nil	7th standard or below
Valli (F)	38	Nil	10th standard
Ishwari (F)	39	Nil	7th standard or below

Education

The education level of the younger respondents is roughly higher compared to the elder of the group, where Sangeetha (33) is the only informant above 30 with a Bachelor's Degree (often referred to as UG, Under Graduate). 12 informants have graduated from college and higher education, or a type of skill training, as the two males, Ramraj (24) and Kiruba (25) who have both acquired certificates through courses and vocational training, represent. Three informants have graduated from 10th std., which provides admission to e.g. vocational training, nursing and many skill development options (Ministry of Labour 2015:262), but admission and eligibility for college requires a minimum of 12th std., which is also dependent on the final exam marks or scores; all informants are entitled to relaxation of marks as per their caste categories. Those three dwellers have seized further education despite the admission options 10th std. or +1 graduations grants; +1 is considered a finalised ground school education. However, the remaining informants do not have primary or secondary high school graduations, which constrain them from entering into higher education and the formal labour sector. Only Loganathan (31) has with his 10th std. graduation acquired a job in a formal, private sector as an office assistant, and Vengat (21), who failed 10th, is a delivery boy for a tile company; both represent jobs, that without any formal certificate, will be difficult to mobilise upward by or to different positions based on experience only. The formality of these jobs, especially delivery boy is debateable.
Two of the young women, Swathi (20) and Helenmaria (18), and three of the young men, Jarald Joseph (18), M. Yogesh (19) and Raj Bharat (18), were still studying at the time of the interview and these five (naturally) make out the youngest informants. Raj Bharat is quite unusually both studying *and* working as a manager at a lighting shop for the past year on the nearby main vein, Anna Salai[23]. As a glance on the education among the dwellers reveal, is that a Bachelor in Commerce is quite popular, this entails business management and economics, entailing the use of software and ICT in studies and probably in following occupation.

Occupation

Less than half, i.e. 9 of the dwellers are employed, which is as discussed previously, a reflection of the fraction of informants gathered. 11 are unemployed and 4 are students within both Diploma and Bacehlor's degrees. The dwellers' occupations represent a combination of both formal and informal sector work, which is also a result of their educational qualifications. Of the unemployed, who are mainly females, only Valli (38) did not previously have employment, and was the only one not to express a wish to return to the work force. Including the previously employed and Raj Bharat who is both student and in employment, the slum dwellers are grouped into two different sectors according to the abovementioned divisions, *the private, formal wage sector* and *the informal wage sector.* Thus, none of the informants are self-employed, yet the husband of Amirtaha (24) who is currently unemployed, owns a (small) photo company. Also, none of the employed or previously employed informants are to be found in *the public, formal wage sector*, where jobs are reserved for their caste categories, yet quite in demand and difficult to obtain.

[23] Salai means road or street in Tamil. Anna, is found repeatedly in the Chennai districts' "nagars" and colonies.

Mobility in comparison to parents

The informants who obtained college degrees or diplomas have, in comparison to their parents' occupations, exceeded their educational levels and sector-based job type. Largely all of the informants' fathers work in the informal sector as 'coolies', i.e. hard labour in construction, painting, auto rickshaw or car driving for both private companies or individuals; the fathers of the four respondents, who were born in rural parts of Tamil Nadu, would work in agriculture[24]. The mothers are or were housewives and, if from rural areas, would assist in agricultural work.
According to local professional at the JustJobs Network, Amanbir Sing, the mobility toward higher education compared to one's parents, is trending amongst many youngsters:

"*In our work on skill development we have seen a large number of youth driven by aspiration to work in occupations and settings that are different to their parents"* [Sing].

The parents' occupations reveal the tie to informal sector work within the strata, as well as the current, modern transformation in education as 12 out of the 22 slum dwellers have graduated formally from either vocational training, Bachelor's Degrees and a single dweller with a Master's degree. In addition, almost every informant expresses to have more job options than their parents.

The glance at education, employment, and employment type of the slum dwellers' parents, expresses both some traits related to the structuralised inequality, which is indicated in the low education levels among some dwellers and the parents' occupational legacy. Those who have entered or are currently within higher education have taken advantage of the reservation benefits based on relatively high marks in the final exams, which can be interpreted as a success of the system that has enabled formal education and the chance to enter formal employment for the lower strata. In that sense, this quick overview seems to express internal differences among slum dwellers, and that some have been 'enabled' by the structures set by the government, and thus in terms of education at least, seem to have overcome the traditional inequalities within the structures of the caste system. Those individuals, who have not been able to make use of the reservation can be considered 'constrained'.

Before diving further into issues of employability and discrimination, the following will interpret the slum dwellers' occupational and educational opportunities based on innate circumstances and life cycle differences.

Internal differences: Gender and life cycles

The differentiated education levels and types, and sector category association of the employed and previously employed reflect internal differences and transformations within the group of slum dwellers. The differences can partly be attributed to the changes in education access for the segment of slum dwellers or low castes in general; a success that is in part an implication of the revolution and advancements within the IT sector in India. Thus, it expresses the radical impact ICT have on changes within Indian society, in particular on the job market supply, in the work sphere, and in information and supply of education. The changes within the group seem to imply a shift to a more resourceful educated group, that qua education gain more of what Bourdieu would term cultural and also social capital. Bourdieu considers the educational system to be a main factor of differentiation and of reproduction of

[24] Agricultural work amongst lower castes, is usually manual or semi-manual labour, and for many the living conditions in the rural areas is scarce.

social structures (Wilken 2014:93f). Since the high-educated segment within the slum dwellers constitute a relatively new group, at least in the current amount, it raises the question as to their ability to understand the 'rules' within the field as higher education has not historically been part of the segment's practice.
For the slum dweller segment, circumstances at birth such as caste and gender, and also further on in terms of life cycle have implications for opportunity in differentiated ways, as will in short be explained here.

Life cycle

Glancing at the groupings in the table reveal that far more of the men are in jobs, only Murali (22), who recently graduated from a Bachelor in Commerce is unemployed. For the female informants, married life and children seem to constrain them from continuance in the work force, as all the married females, except one, express a wish to (re-)enter into labour. Naturally, that calls for a job supply which is a constraint in itself. Based on what the female informants themselves think in terms of acquiring the job they want and if they think they can get it, the picture is differentiated: some think it will be easy, others difficult and some a combination of hard, but possible. Only Amirtaha expressed directly, that marriage and children made her end employment, yet in interpretation here, that tendency fit to the other females. The females are all married, besides the two students Helenmaria and Swathi, which allows for an interpretation of marriage as a part of the individual female's life cycle as a constraint for employment. The role of the woman in India remains related to patriarchal family norms, in which the wife is expected to remain in the household, cook proper meals, and provide the best care for the children. Besides, the husband's role as the family provider means loss of status if the woman may have to work as well. The local urban body, COC, provides day care centres in slums presenting the option of two workers in the family, but according to social worker Rohini Reddy, that means loss of "*motherly touch and affection*":

"*Very rarely they would want to put* [their child] *in a day care centre. Even if a woman is willing to go for work, the system should be motivating and provide a conducive environment for the woman. She should be able to go to work provided that she has some reassurance that everything will be okay, but that is not there"* [Reddy].

Also, separation is becoming more outspread amongst slum dwellers (not divorce) [Reddy], which for the female can be devastating if she is not able to find work. Remarriage is harder for the women from the low caste segment, compared to the men, again due to the mentioned patriarchal norms of family. The expectation of the female in a work context may also make her less eligible for a job in the eyes of an employer, due to the life cycle changes and possibly retention from the work force.

Gender

The gender differences are reflected in the life cycle differences, because gender is a circumstance chronologically prior to the life cycle change into marriage. However, the norms of gender roles in the family can be seen as a practice that is reproduced thus ascribed to the female gender.
For the female slum dwellers, the above indicate the inequality between the sexes: traditionally, for the girl child education would not be considered necessary, which in modern India is technically illegal. As the dwellers here exemplify, some exposure to schooling exists, but it differs radically among the ages, where the younger females roughly have higher educations than the elder, for instance Ganga (33),

Senthamarai (35), and Ishwari (39) all have schooling of below 7th std. None of the males have below 10th std. schooling. (9th for Vengat, who failed)
As the female might be more constrained by life cycle changes in marriage and thus the traits and expectations ascribed to the girl child, that ultimately would be less eligible for education, the males in Nakirar Nagar and other Chennai slums, seem constrained by an extensive and widespread abuse of alcohol, which also government social worker Nirmal Raj and Rohini Reddy described. Those males are however not visible among the slum dweller informants[25]. Alcoholism may not mean retention from the work force, but it is likely to affect what types of jobs, the male can acquire. Alcoholism amongst the men seems an underexplored problem in the Chennai slums, and the problem can be regarded more than just individual.

Females are also more likely to end employment at marriage if they had been previously employed. Thus, for both males and females the innate circumstances and later life cycle trajectories, affect the likelihood of education and longitude hereof, especially for the latter.

Employability and skill training as a "band-aid"

The transformations in education are reflected in the above for the younger slum dwellers, yet what can be described as a closing gap between caste groups in India may not lead to more equality in the job market, especially the private sector, that does not offer reservations. Local professionals Amanbir Sing and Pratibha Joshi both address the problem as a lack in quality of education. Joshi describes that as a development country dynamic; not enough available jobs along with lower strata achieving e.g. a BA, but the structures of job supply not yet adjusted:

"*… Job opportunity and access that one hopes for after graduation is not there. That inequity part is similar* [to Kenya]". She continues: "*People do realise the value of education. All want for their children to get a certificate, but what it seems is that even with a degree they are still not employable. Something goes wrong after education; that leap to getting a job or a well-paid job doesn't necessarily happen.".* [Pratibha Joshi]

Joshi refers to problems with environment, setting and access to a "*world knowledge*" in schools for the lower strata. The leap to employment can be understood as a result of the previously identified "glass walls" and "glass ceilings" that complicate both penetration into the work force or a job related to ones education, along with problems of upward mobility in the sectors (Das & Dutta 2007).

Sing states, that in relation to "*very high level of dropouts*", children of 7th-8th standard read at class 2 levels, and:

> *"Few finish school and very, very few end up after school with the skills they need to get formal employment or really contribute to the workforce. Skill development has come in as a fix to that, a band-aid to apply to the education system. (…). Even in a more idealized world where they [the GoI, red.] were more focused on skill development and providing training it is still very hard for a three to six months programme to make up for a completely failed education."* [Amanbir Sing]

What the two quotes indicate are a strive for education, but as an end in itself which according to the professionals up as educational quality problems, indicating that a large quantity of children in schools is ideal, but not sufficient as they face problems of unemployability and are thus not equal to other

[25] Considerations on the informant group is to be found in the methods section.

groups seeking employment, except for what appears as theoretical equality on paper.

In interpretation, Vasihnavi and Sentimental Kumar can be considered to not have acquired the "well-paid" or fitting job in accordance to their degrees. Vaishnavi's job at the IDP Bank with data is according to Sing monotone, back-end work that may not *in theory* be coherent with her degree in Public Administration. Sentimental Kumar, a Commerce Bachelor, similarly work in a bank with cheque collections. Thus despite an visible exceeding of parents' education and occupation, the slum dweller group still faces problems of *structuralised inequality* related to caste, which seemingly has implication for the opportunities as per gender and life cycle.

Caste as institutionalised stigma

The above aims to clarify the implications of caste on the urban slum dwellers and their occupations. The lower castes, that the dwellers are representatives of, seem to meet constraints in their efforts to gain jobs, even after graduation from higher education. Traits, that seem reflected in the slum dwellers statements.
Ironically, the prevailing structuralised inequality related to low caste can be seen as reproduced politically, legislatively as well as socially. Thus, caste can be understood as an *institutionalised stigma*, paradoxically continued in India's constitution. The urban bodies, for example the TNSCB Nirmal Raj represents, are working to equal out the inequalities historically rooted in caste, that they themselves are re-producers of. In the course of the 70 years since the introduction of caste into the Constitution of Independent India (1947), the groups have transformed and some have gained power, influence and high positions, i.e. the 'creamy layer' referring to SC individuals who exploit their seats in parliament under accusations of nepotism, which endures due to political corruption issues. Thus, the reservations and benefits meant for the deserving go into wrong hands.

In Bourdieu's terminology, the caste as an institutionalised stigma is a strange phenomenon. Bourdieu talks of *theoretical classes,* that do not exist in reality but as what he defines as *social space of distinctions* in which different social groups fight for capital in differing fields (Wilken 2014:76ff). The slum dwellers' and the low castes' efforts - at least among some - can be seen as striving to gain cultural and social capital by accessing the education system and the higher degrees the caste group historically have been deprived. However, the institutionalised stigma that the low castes represent is considered a *real* class in terms of legislation and politics, despite large differences in capital within the group. In that sense, the instutionalised caste or class fight for capital within the class itself and in competition with other groups. When Joshi refers to a lack of world knowledge, it resembles a lack of cultural capital needed in order to acquire positions based on higher education, despite the government providing the economic capital to do so (Wilken 2014:61). Thus, it is indicative of an inability to understand the "*rules of the game*" that make out the educational field as a step prior to access to formal occupation.

Summation

This section aimed to show how caste as a determining circumstance at birth, along with gender and life cycle, impact the opportunity for education and employment, which was here interpreted as *structuralised inequality*, which the slums are expressions of, due to their translation into low caste. Also, it showed that the transformations of education and occupation in Indian society are visible amongst some slum dwellers informants. However, that picture is further constrained by the 'glass

walls' and 'glass ceilings', mentioned in earlier sections, that appear as discrimination against particularly the SC groups, who constitute the larger caste group in the slums. Employability problems are discussed, based in lack of quality education and a missing 'world-knowledge' here interpreted as low social and cultural capital. The strive for education is thus explained as a effort for the slum dwellers to participate in new fields in society, and thus meet an inability to *understand the rules*, i.e. the lack of capital in the educational and eventually occupational sector strains the segment from entering into the 'modern' job market.
In summation, the link between urban slum dwellers and occupation signifies both an existing inequality and transformation that may not however lead to equality in a work-related situation. Understood in Bourdieu's terms, the educational and occupational fields have existing social rules, that a lack of cultural and social capital among the slum dwellers segment becomes a hindrance to enter.

2. SLUM DWELLERS AND THEIR USE OF ICT

The following will address research question 2: "How can the mentioned changes ICT have brought about be understood in terms of the urban slum dwellers' a) Daily life practices? and b) Work and occupational sphere?"

The findings cannot point to exactly how and when in a work-context, the informants use information and communication technologies, but it can give an impression of how many use it in work, for what and with what.
A picture of the slum dwellers' occupation and education and how that relates to the context of a structuralised inequality within those fields, was presented in the above. Also it is here assessed, that the slum dwellers despite advancements in education and occupations, as is evident among some informants, enter into occupations that are not coherent with the degree level, e.g. a Bachelor's Degree in Commerce would lead to skills that go above cheque collections and data entry. That is perhaps an expression of lack of jobs, yet the low caste segment of the slum dweller seem further constrained by problems of unemployablity based in quality of education and a "*world-knowledge*" [Joshi]. The world-knowledge is somewhat equivalent to a lack of cultural capital and understanding of the educational field in which the slum dweller segment have recently entered based on government reservations.

The following draws on the descriptions and findings from section 1., that aimed to cover existing inequalities and internal differences, based on the perception, that caste, gender and life cycle inequalities in education and occupation are not washed out by the outspread introduction of ICT, as seems to be a popular interpretation. Before discussing the ICT in the work sphere, the section will in short focus on the slum dwellers use of ICT in daily life to explain the link between the concepts as per the research question.

Slum dwellers in the Network Society

According to Manuel Castells "… *we are living in a period of historical transformation*", that similarly to the social changes brought about by the advancements of industrial society, today are caused by what Castells define as Network Society. The transformations in the two different periods have similar manifestations "*depending on country, culture, history and institutions*" (2002a:548). Moreover, network

society rooted in information and communication technologies has radically changed social organisation and communication, as it has impacted upon multiple dimensions of social life (Castells 2002a). The social practices linked to ICT bring along processes of both "*individuation and communalism*" (Ibid.:550), as an indication of the technologies' penetrative role in our lives for both the individual and the social communication that ICT as information seeking and communicatory devices facilitates.
These transformations are evident in the lives of the urban slum dwellers – both internally as a device as part of practice, and in the outside structures, for example as the background for job creation and initiatives to improve living conditions in general for lower strata. Also, for the slum dwellers in Chennai, government schemes focus on inequality in technology consumption as a further "unequalising" trait; hence, the introduction of e.g. the "Free Laptop" scheme (2006). It expresses the perception of the importance of ICT for human development, aiming to overcome the "*digital divide*" (Chandrasekhar 2001) that technology poses due to among others inequality in consumption power – which can be traced back to the structuralised inequality of caste and occupational discrimination.

However, ICT as devices are facilitators for interaction as an extension of the individual action or through which the individual *can* act, yet the actions demands access, know-how and a structure to act toward or within from the individual's part. In other words, the enabling traits that ICT in general is expected to entail, also depend on the skills and general education of the individual using it. Thus, use of ICT as, for instance as a means to acquire an occupation requires a technological learning. In the rapid, continuous development in advancement and use of technology, the learning is subsequently necessary, which has resulted in the extension: "*learning digital divide".* (Chandrasekhar 2001).

a. Practice in daily life

The urban slum dwellers all stated, that they have at some point in their lives had experience with technology. That notion is very broad, and doesn't mean that they feel they have access to nor ownership of a device. It does express, that none of the respondent across gender or life cycle state are completely alienated from technology, indicating the outspread of ICT in the Chennai slum context. After that, the picture of practice with technology differs quite a lot in the informant group. The internal differences discussed in the foregoing section will be considered in the following, as it is expected to implicate on the individual slum dweller's ability to use technology – and interest herein. Moreover, the income levels of the informant group differ substantially, especially when based on members in the household. However, there didn't seem to be any link or difference in income and ownership of device, which might indicate that it is unknown what the families' expenses are, and if the wife is given the option of individual consumption of ICT. The section finishes with some considerations on conspicuous consumption related to Bourdieu's concept of practice and taste.

Ownership or access
As the first step, after noting outspread experience, shows, differences in ownership as different from access. The 4 (5) dwellers who states to not own any device, such as Valli, Helenmaria, Swathi, Ganga, and (Jarald Joseph[26]), all have access to devices, either through husbands, friends or parents. Yet, Ganga

[26] Jarald Joseph had some inconsistencies in his statements that seemed to show practice with ICT, despite insisting when asked to ownership of technology. He studies Computer & Commerce, which would be unlikely to not include use of ICT.

(33) says she can access a smart phone through her husband, but that she never uses it either for calling nor texting – in fact, she as the only informant who states to not have any practice with ICT.
Not all the females told whether their devices, e.g. the laptop was theirs or their husbands, but the fact that they stated to own a device or use one every day, indicates practice with the device, which is also reflected in their statements on what they use it for.
Across genders, the use of ICT and ownership of ICT reflects the gender inequality mentioned earlier. Overall, only one male, student Jarald Joseph, who does use computer daily and smart phone with his friends weekly, states to have no ownership. The picture is differentiated, yet it seems that especially the elder women of the group, Valli, Ishwari, and Ganga are those who has the least of practice with ICT, which may also indicate that it is not a necessity in their daily lives. 8 informants own a laptop, whereof (at least) two, Raj Bharat and M. Yogesh, are given based on the before-mentioned government scheme, "Free Laptops".
Also age seems to have an impact, where the younger informants, perhaps expectedly, generally have more access and use of devices, especially with friends and in college, where internet is also accessible. Thus, the life cycle state, that being a student represents may directly influence on use of internet as all students use laptops or computers on a daily – despite that they might not all own a laptop. Many of the informants above 30 have a cell phone, and some access smart phones, but do not use them.
Most respondents use the device(s) at home primarily and with friends, except Vengat, who only accesses ICT and internet in his office, and Jarald Joseph who states to only use ICT with friends. 6 respondents state to use ICT in their work place.

Table 3 gives an overview of the respondent ownership, access, use of devices and internet. Some replies have later been reassessed due to inconsistencies in the statements. Those are marked * or [red.].

Table 3

Name/Gender Colour indicates occ. status	**Age**	**Ownership of ICT**	**Access to (other) ICT** (All access cell phone)	**Use/practice context**	**Use of device(s)**	**Internet use**
Raj Bharat (M)	**18**	Laptop (gvrnmt.)*	Smart phone daily.	At home, with friends, office	Internet browsing, texting, calling, apps, music, games	Yes, 3G/4G, (data package, 198 rp/m)
Jarald Joseph (M)	**18**	None	Computer daily, smart phone weekly, use with friends.	With friends	Texting, calling, apps	No (Yes [red.])
Helenmaria (F)	**18**	None	Computer weekly, father's smart phone daily	At home, with friends	Texting, calling, apps	Yes, a little.
M. Yogesh (M)	**19**	Laptop (gvrnmt.)*, Smart phone	-	At home, with friends, college	Internet browsing, texting, email, calling, apps	Yes, Wifi , 3G/4G
Swathi (F)	**20**	None	Computer daily (college), mother's smart phone daily	At home, with friends, college	Texting, calling, apps	Yes, a little.
Vengat (M)	**21**	Smart phone [red.]	Computer, daily	Office	Texting, calling, apps	No (Yes [red.]) Only office wifi
Murali (M)	**22**	Laptop, Cell phone	Smart phone daily	At home, with friends (laptop at home)	Texting, calling, apps	Yes, Browsing centre
Amirtaha (F)	**24**	Cell phone. *Husband owns smart phone*	Smart phone daily.	At home	Texting, calling	No
Ramraj (M)	**24**	Laptop	Smart phone daily,	At home, with friends	Internet browsing, texting, email, calling, apps	Yes, 3G/4G
Vaishnavi (F)	**25**	Laptop, Cell phone	Smart phone daily,	At home, work (when return from maternity leave)	Internet browsing, texting, email, calling, apps	Yes, 3G/4G
Kiruba (M)	**25**	Smart phone [red.]	Computer, weekly	At home with friends, office	Internet browsing, texting calling , apps games, music	Yes, 3G/4G
K. Sumathi (F)	**25**	Tablet, Cell phone	None	At home	Calling, playing games, music	Yes, 3G/4G
Vasanthi (F)	**26**	Laptop	Smart phone, daily.	At home	Internet browsing, texting, email, calling, apps	Yes, Dongle/USB
Sentimental Kumar (M)	**28**	Laptop, Cell phone	Smart phone daily,	At home	Internet browsing, texting, email, calling, apps	Yes, 3G/4G
Devi (F)	**30**	Cell phone	None	At home, with friends	Texting, calling	No
Loganathan (M)	**31**	Cell phone	None	At home, with friends, office	Texting, calling	No
Sangeetha (F)	**33**	Cell phone	Smart phone, but never uses.	At home	Nil (states she does not use it)	No
Ganga (F)	**33**	None. *Husband owns phone*	None	Nil	Nil	No
Amul (F)	**34**	Cell phone	Smart phone daily.	At home, work (private house keeping)	Calling	No
Senthamarai (F)	**35**	Laptop, Cell phone	Smart phone less than monthly	At home	Texting, calling, listening to music	No (Yes [red.])
Valli (F)	**38**	None	*Smart phone, but never uses.	*At home, with friends	Calling	No
Ishwari (F)	**39**	Cell phone	*Smart phone, but never uses, No PC	*At home	Calling	No

** signifies inconsistency in the statements, where the actual meaning has been assessed*

Internet use

Eight respondents stated they did not know how to use the internet. Some who stated no, when later asked to what extent they use devices, mentioned for browsing and applications, thus indicating an actual use of the internet. It is important to note that this is the informants' personal understanding of what that means. For instance, the two young students, Helenmaria and Swathi stated to know how to use the internet 'a little', yet when asked what they use it for, their use and purpose was similar to the replies of the other nine who said 'yes' when asked the same question. In addition, Senthamarai (35) who owns a laptop she uses monthly and has an email address, says 'no' to use of the internet, which seems quite unlikely. Vengat (21) and Jarald Joseph (18) also say 'no', but at the same time state, that they use devices that they either own or access for applications, such as Facebook. What it exactly means to be able to use the internet, is a matter of scale and behaviour online, which has not been possible in this study, despite the interesting differences one might expect to find there. The 30+ respondents have less use of the internet, that may also be enforced for the females by married life and less exposure or use hereof.

The use of the internet can be problematic in the slum, due to frequent electricity cuts. No respondent said they have permanent access to Wi-Fi in their homes; only Vasanthi has a dongle in her home. Vasanthi, who is also the only informant with a master's degree, seems to be most resourceful in the use of ICT in general. The younger of the informants, who knows how to use the internet, have a diversified use herewith: most use it for online games, but some like Murali states to use it for job searching and Helenmaria states to use it for college and exams. That indicates some resourcefulness with internet and devices among the youngsters, which may result in better chances to compete in the job market.

English skills are also a central part of internet and laptop use, and mastering English also gives access to information and more job opportunities. The dwellers have different understandings of their English levels. When asked if they spoke English, some said no, some said few words, and some said yes, yet none of the informants seemed fluent during interviews.

The overall picture shows some possibly expected traits: that smart technology is used mostly by the younger of the group, and that the elder women are perhaps both less familiar and less interested in ICT – and due to their role in the family perhaps also less able to consume of ICT. Subsequently, some slum dwellers have everyday practices with ICT, but a few do not. Practice and use of ICTs mostly takes place in the home sphere, and along with friends.

Practice with ICT can be understood as scale of 'how much it is used', which is somewhat difficult to determine based on these statements. Also, the devices expresses a hierarchy in 'smartness', meaning that mastering a laptop is considered a higher skill than the use of a cell phone.

Also, when something is used 'enough' to be considered part of practice becomes a matter of perspective. Yet, it can be stated that their use is differentiated, and that the group is not alienated from ICT. The outspread use of ICT as phones, lead Pratibha Joshi to say: "*the best part is that everybody has one!*" in relation to work projects. But for (at least) this group it should be altered to everybody *can access one.* It challenges the outspread idea that *everyone* has one, and also challenges what ICT can be used for in e.g. human development projects, types of occupations to access, and how much can be expected of the individual slum dwellers in terms of, for example, behaviour with technology.

Of the group presented here, Ganga seems to be the only *technologically illiterate,* if the lower bar for illiteracy is defined by know-how with cell phones. Concerning smart technology, laptops and

consequently Internet, the picture changes to half the group being technologically illiterate. Based on access to jobs that include ICT, a large part of the slum dwellers would be unable and unqualified herein.
Moreover, technological illiteracy as a term is fluid because of the rapid changes in technology. Those without the means to access the new technology, that becomes part of e.g. workplaces, may suffer from digital learning divide; a gap that may increase as those who have know-how and access continue to learn, whilst those who do not fall further behind.

Conspicuous consumption
The younger respondents that have practice with smart technology, can be considered to also use their device as part of conspicuous consumption. According to Sing, the low caste youngsters strive to exceed their parents, and he states: *"… the aspiration is linked to symbols of economic growth and conspicuous consumption".* That falls in line with Rohini Reddy stating that transformations toward westernisation have impacted the younger slum dwellers. ICT are a novel phenomenon or relatively new, especially for the slum dwellers segment. Practices are, according to Bourdieu, also naturalised in the sense that actions by agents are not always reflected upon:

> *"That part of practices which remains obscure in the eyes of their own producers is the aspect by which they are objectively adjusted to other practices and to the structures of which the principle of their production is itself the product". (Bourdieu 1977:79).*

Similarly, the slum dwellers can be seen as a group who are and have differed substantially compared to other groups of Indian society in terms of practice and consumption as lower in a resource hierarchy. Thus, technology, which is related to expensiveness in cost and consumption, immediately appear unfit for a slum setting that connotes poverty and lack of economic capital. Along with the aforementioned strive to exceed their parents' situations, the smart technology can also be interpreted as a way for the historically disadvantaged segment to express a type of taste or affiliation to capital and resources. Not as part of conscious choices, but as a strategy to look comparable to the groups in society, who have been resourceful and wealthy traditionally as a way of signifying affiliation to modern trends. This constitutes a mode of which ICT has impacted the slum dwellers.

b. Practice in work sphere

The following will address the slum dwellers' practices in the work sphere, as to explain the research question of their use of ICT in their jobs.
The findings cannot point to exactly how and when in a work-context the informants use information and communication technologies, but it can give an impression of how many use it for work, how and for what purpose while working. The above challenges the idea, that "everybody has one" and though the scale of ICT use is hard to measure, it was assessed, that some dwellers, especially the elder group of women, who already seem to most disadvantaged based on the findings in previous sections, also here are not benefitting from ICT in the way that is "expected", i.e. thus challenging the potential of ICT in human development projects including behaviour and action with ICT.

Technology in occupation

The following addresses the findings regarding the informants, who confirmed to have used or are currently use technology in their work. The types of occupations the dwellers are engaged with are vary, as previously described, Consequently, the way they use technologies also vary which implies the many different work relations in which ICT take part.

Eight (ten) of the twenty-two urban slum dwellers said that they use technology in their work, whereof two, Murali and Vasanthi stated no, yet in other replies, it was clear that Murali uses ICT qua his previous job as a caller in an Airtel[27] call centre, and Vasanthi would most likely have encountered some kind of device regarding billing, as the TNQ Books and Journals is a large, national store. Here, every type of device has been regarded, despite the functional differences between a cell phone and a computer.

The table aims to clarify if there are any links between the type of ICT used at work as is also used in the home sphere, and to present how technology has become a part of urban slum dwellers occupations.

[27] Indian phone company

Table 4

Name	**Job**	**Previous work experience**	**Technology in work?**	**ICT use in work** (current or previously)	**Technology in future work?**	**Working timespan**
Amirtaha	Nil (House wife)	2 years of tailoring after school. (Then family start)	Yes, daily	Use it for calling clients at work	Yes, definitely	2 years
Sangeetha	Nil (Housewife)	Assistant at Billroth hospital, 2 years. Health Assistant at Harway Hospital, 2 years	Yes, daily	Computer for billing and x-ray	Yes, definitely	4 years
Vaishnavi	Data entry, company IDP Bank, (on maternity leave)	No	Yes, daily	Computer for data entry. Excel, PowerPoint, emails, Photoshop,	Yes, definitely	2 years
Vengat	Office delivering. Anthony enterprise, tiles company	No	Yes, daily	Two touch phones. Communication with clients and personnel	No	3 years
Raj Bharat	Manager of 3 staff at Creative Light on Anna Salai,	No	Yes, daily	Billing, email job, smart phone for internet access	Yes, definitely	1 year
Sentimental Kumar	Cheque collections, HSBC Bank	Amul Ice-cream, 3 years. Ramco Systems, 2 years.	Yes, daily	Laptop, *bank transactions* smartphone,	Yes, definitely	8 years
Ramraj	Graphics designer at Sri Kumaran Thangamaligai	No	Yes, daily	Using smartphone to get information and audio	Yes, definitely	5 years
Kiruba	Electrician at LNT construction company.	Ticel bio park 2 years.	Yes, sometimes	Smart phone calling boss, and in former job	Yes, definitely	5 years total
Murali	Nil	Caller in call centre, Airtel.	No (Yes[red.])*	* -	Yes, definitely	1 year
Vasanthi	Nil	TNQ Books and journals	No (? [red.])*	* -	Yes, definitely	1 year

The different jobs of the informants, naturally leads to different uses of ICT. Vaishnavi seem quite resourceful in her use of ICT in her job at the IDP, stating to use many different programmes and functions. For her, along with e.g. Sentimental Kumar, Raj Bharat and Sangeetha, ICT seem to be a central function in their jobs, whereas Kiruba and Amirtaha mainly use(d) devices for calling.
Through the findings, ICT are central in the work sphere for some slum dwellers, but for others the use of ICT are mostly to communicate with bosses, and less of a central function in their work. By far, most of the dwellers shown here, including those who do not use ICT in their work currently, seem to expect to in their future work, as well as their children's. For instance, Raj Bharat is already using ICT in his current job, and other students are likely to use ICT as a part of their future work.
Yet, it can be discussed if the educations have led to the expected position based on degree level, cf. the employability complications and how helpful their knowhow with ICT will be in future employment situation, considering other factors of discrimination, that the segment may meet especially in the formal private sector.
In aggregation, the occupational statuses of the slum dwellers differ by age or life cycle, where the newer generations seem to have much more prestigious education levels than the elder. It can be an expression of previous dwellers, who obtained a degree and have left, but since formal education is quite novel in the segment, those informants are likely to represent a new generation of low castes with degrees and titles.
In Bourdieu's terms, the younger slum dwellers with higher degrees now have the theoretical means or cultural capital that provide access to play in the occupational field. But fields are also social fields with certain rules, which the individual needs to know and understand. Given, that the group is a relatively new player in the educational and occupational (especially the formal, private sector) fields, they are not aware of how to play, as it is not part of their practice or know-how, similar to what Joshi considers a "world knowledge". The dwellers' combination of cultural and social capital differs or lacks compared to other social groups, which is also a result of deprivation of economic and symbolic capital, which, in the Indian context, in large part translates into landownership. The introduction of technology in education and occupation may not be an expression of equality in access to occupation, in general.

ICT as a gender "equalizer"?

Previously, the issues of gender and occupation described how gender as innate circumstances affects future opportunities, eventually also for occupation. According to Amanbir Sing, the research within skill training has shown:
"Some fields have a good gender balance, such as IT. There are not as much of cultural and gender problems. People haven't judged it as a male occupation culturally." [Sing]

The historic division of occupations, based both on caste affiliation and also gender within the caste groups, have placed individuals in certain types of work. IT as a relatively novel industry has not been categorised into more traditional perceptions of occupation, thus IT could lead to a less gender divided sector, compared to the existing traditional jobs of the low caste segment, where females would predominantly take on tailoring or housekeeping, and the men carpentry and electrician [Sing]. The possible gender 'equalising' traits may however be more in-group based, and not necessarily aid toward equality between strata for those who have achieved a high degree.

Another indication, that has not been possible to explore further in this study, are the jobs opportunities for the low caste segment, which ICT constitute. The general outspread of the devices

creates a base and necessity of reparations, a type of business that is found in large numbers in and around Chennai. These jobs remain informal, and in some cases leaning toward illegal, as stolen goods fluctuate in the grey markets. However, it is a manner in which the low caste segment may benefit directly by the new possibilities offered by the ICT introduction into society.

ICT as facilitator

It is here understood, that ICT may be helpful in many a context, yet it is the individual behind the given device and the know-how that eventually defines the potential and outcome the ICT device represents. Similarly, in an occupation context, be it *prior* to a position job seeking or information seeking, or *in situ* work context where the device is used to alleviate or support one's work as a tool for e.g. data entry or communication, it is also the individual slum dwellers ability to utilise the technology that determines the potential of the technology.
When discussed with Amanbir Sing, he pointed to similar issues relating to the younger segment of skill training students. He says, that within the field of skill development, IT has not made much of an impact, despite the expectation hereto, which may still have an impact yet to be seen. On the question of what change ICT *has* brought about, he states:
"*Possibly, what's made a difference is that it is easier to make a network and find employment through that* [ICT]*. What I have seen from trainee graduates, the most important thing is to have a network, and technology can facilitate that. But it doesn't look like to me, that people are finding out about employment or be directly connected to the employers through technology."* [Sing, my emphasis]

In other words, ICT can be used as *facilitators* when other basics are set: *if* one has a social network or social capital ICT poses an option to exploit that, but it does not, in itself enable network for occupational access or opportunity. As part of work practice, the slum dwellers represent a somewhat varied use of ICT, indicating that ICT *have* become a part of the work sphere for the lower castes. The transformations in education and occupations that ICT has enabled, especially in urban settings, is seen among the informants and the popular positions within larger companies have been achieved by for instance Vaishnavi (data entry IDP Bank) and Sentimental Kumar (cheque collections in HSBC Bank).

The 'facilitating' effects of ICT seem constrained by the trajectory of caste or structuralised inequality, which has lead to the current situation of unequal outcomes in education and education quality. Pratibha Joshi states, that in her work with MSME, problems related to both practice and education of the urban poor. She explains a different financial logic in terms of disposable income, where the husbands' earnings may go to the children's educations and the wife's (if she has a job) goes to household, schoolbooks and the like, not as an aggregated sum. Moreover, the informality of the segment's occupations means that it is difficult to determine an exact monetary income per month, unless one is involved in formal sector jobs, that for instance the parents of the informants are/were. Regarding a MSME call-line guidance project Joshi explains:

> *"The best part is that everybody has one [a phone]. The other part is that not everybody uses it in the way you would have hoped for. Not everybody saves your number, they just remember the last few digits. So they would say: "Yeah, I know your number, it ends with 706…". So, the savvyness that's needed from a person who's with a phone, how do you really bring that up so you can use it with a person to bring about what you want."*

The practices in business can in part be traced back to education level, as well as informal practice with business. Joshi explains, that many do not understand percentage, and thus have difficulties with

managing their businesses. The 'savvyness' she mentions can be understood as know-how, which is crucial for development projects to play out as intended and also for technology to be integrated into their work. For some within the slum dwellers segment, this challenges the idea of what ICT can be used for. It may focus mainly on the young generations, but the mentioned digital divide may regard especially the elder in the segment, that may risk further alienation and competitive difficulties as ICT develop rapidly. Thus, the idea of ICT as a facilitator and enabler of social interaction is debateable, because it is not an end in itself, it requires learning, basic know-how and 'savyness' from the individual.

If regarded as a *facilitator*, ICT will reflect the individual's prior traits, that may also mean a different understanding of what, for instance a smart phone or laptop can do, and perhaps less as an information seeking device, and more a device of "*entertainment value*".
That being said, practice issues might be less of a problem for the younger, higher educated segment in the urban slums, as some informants here state to use the internet for downloading and seeking information, and Murali says he searches for jobs online. The question is, if the newer generations are able to break through the glass walls and ceilings, and if the coming generation access learning that decreases the discussed digital learning divide (Chandrasekhar 2001) become more related to entertainment or progress.

Summation

Based on the findings from the slum dwellers interviews it can be assessed, that use of ICT differ both in type of device, and that the elder seem – as could have been expected – less familiar with the smart technology, both in occupation and daily life. Regarding the link between occupation and ICT it here shows, that ICT have been introduced to both daily life and work sphere of some informants, and particularly the younger, educated informants seem to know how to use technology. That is indicative of the advances in education, but not for all the informants. Thus, to answer the research question, the slum dwellers have a differentiated use of ICT primarily based on age; some youngsters have better ICT know-how, but some seem distant from ICT use. It is found, that ICT can be a facilitator, but that it demands an existing social network towards which to use the device or the ability to search for jobs – for which one dweller states to use the internet. The findings seem to indicate a digital divide between the younger and the elder within the group, which is perhaps an indication of the necessary technology literacy of the new generation, which leaves a remnant group of elders, that will have complications competing with younger generations.

3. ICT: ASPIRATIONS AND EXPECTATIONS OF ICT

This section will focus on research question 3: "How has ICT affected the urban slum dwellers' occupational aspirations and expectations?" to understand the link between especially ICT and occupation.
The previous section found, that a number of the informants use ICT in their current or previous work, yet the scale hereof differs quite a lot along with the type of devices used. It *does* show, that ICT have become part of – and for the studying informants is likely to be – part of work practice for the low caste segment living in urban slums. Thus, the link between occupation and ICT has been interpreted, as for some dwellers and possibly future ones, to include the use of ICT for *some* within this segment. However, the prior inequalities both from the outside structures and within the group seem to cause some constraints, as for instance the females have left the work force due marriage as a life cycle state. In turn, the link between occupation and ICT seem not relevant; but as part of structure and in human development programmes, know-how with ICT is central if the organisation or governance aim to actively make use of ICT in a given project. From the network society perspective it is indicated, that ICT will be an increasingly larger part of the work sphere, also for the slum dwellers segment. Yet, the question remains if it will also equal out existing (occupational) inequities among the strata.
The following will focus on a link between occupation and ICT, that relates specifically to mainly the youth of the slum dwellers segment; a tendency for aspirations toward work to target formal, private sector jobs in the IT industry. It is naturally not the only industry that youth strive for, but in the interpretation of the link between the research conceptualisations, the aspirations for the ICT sector work is central. Given the described historic complications for the segment to enter into the private sector, the aspirations hereto are an important part of the later discussion on the links between the triadic concepts. Also, the section will interpret the expectations to ICT based on Nirmal Raj' statements, as was questioned in initial sections.

Youth and IT industry drivers

> *"Another field that's very, very popular is IT. It is driven by the ambition and aspiration to get placed within the IT industry, which a lot of people see as a ticket to make a lot of money." [Amanbir Sing]*

In a development country setting, it is perhaps to be expected that lower strata strive for wealth or economic capital, of which they in the Indian context have been historically deprived. Sing here refers to both the youth migrating to the city as well as youngsters from low strata from within an urban sphere. Sing identifies the IT industry as a second driver in line with the ambitions of many youngsters to exceed their parents' educations and occupations. Sing explains in an email correspondence, that:

> *"The success of IT firms in India like Infosys and TCS pulls in many young workers, particularly young men. A large number of these jobs are taken by people with limited computer skill. Largely, these are back-office jobs involving maintaining a database. The work can be quite tedious and the hours are typically long. Many jobs also involve a night shift to keep up with US or European time. Nevertheless, these jobs are highly sought after. In both cases, a large number of youth enter the occupations but leave quickly. This*

is driven by the nature of work and the lack of support system for young workers who move to a new place." [Sing]

Amongst the youngsters seeking jobs within the large IT companies, the service and knowledge-based industry that it makes out, is associated with wealth and power, that translates into both symbolic and cultural capital in Bourdieu terms. The lower castes have historically been deprived of the symbolic power that landownership represents, thus the novelty the ICT sector emerges as a field that has not yet been established to be associated with only a specific layer in the Indian hierarchy.
Among the slum dweller informants, six expressed aspirations toward the IT sector as also a result of their educations; Vaishnavi and Sentimental Kumar have occupation in the sector, albeit they resemble the 'back-office' jobs, that Sing mentions.
These aspirations can also be traced to the emergence of the network society and the capitalist economy's impact on urban space. As Sing writes, many jobs are aligned with western country timings, as an expression of another hierarchy between the West and the developing countries. Moreover, the aspirations among some youngsters seems to result in discouragement as the skills achieved and the social network, that is also necessary for livelihood, disappears amongst the young migrants, who have been granted government-funded skill training that they do not utilise. The strive and the eventual disappointment seems rooted in a lack of knowledge of perhaps both the skill training contents as well as information on the awaiting job market - again what leads back to a missing world-knowledge or low cultural capital, that eventually means the youngsters do not know what they are going into. It also expresses the newness of the IT industry and its rapid expansion in the Chennai context; traditional occupations inherited through family or caste would be known to the youngsters, but as a new phenomenon, this first generation has little understanding of what the IT sector entails. Yet, it is also indicative of, a bettering of the lower strata's ability for geographic mobility, and information about the occupation options and skill training in the city.
The young low caste segment's aspirations toward the IT industry and ICT-based occupations connote Castells' notions of network society and "*informational production"* the ICT revolution has brought about (Castells 2001, 2002). In the work on the *space of flows* Castells defines a *cosmopolitan elite* that control the space of flows, for instance leaders of financial networks:
"*The technocratic-financial-managerial elite, who occupy the prevalent position in our societies thus have specific spatial wishes and requirements of the material/spatial foundation for their interests and practice."* (2003:382)
Those requirements result in both a business-based outsourcing of service and knowledge-based production, for instance to a city like Chennai, as the capitalist market logic directs production toward most profitable, favourable places. Also, the elites impact the urban space through *spatial transformations,* whose dominance and power comes to expression in the physical structure and architecture, hence representing the power and wealth for which the youngsters strive (Castells 2003(1996), 2001, 2002). The desire and aspirations thus signifies a link between the occupation and ICT conceptualisations, as the IT industry influence upon their actions toward education and ultimately occupation.

Government expectations of ICT

In the initial section of this dissertation, the governments' expectations and perception of the potentials in ICT for both individual and the job market, i.e. the occupational structure, was questioned as to

whether it holds true that know-how and access to technology leads to education and occupation. The following quote indicate that perception of technology:

> *"Coming generations will have better chances. Even small children have better working knowledge with the use of cell phones, they will be smarter with the smart technologies. (…) The government provides laptops, but not everyone has the knowledge to handle it. If the training and facilities are provided the use will be more. Then the goal of what [red.: laptops] have been given will be reached. More training and awareness on technologies is needed. […] Once a child gets technically qualified, it helps the whole family, for the next generations, they can meet the future technological demands [in the job market, red.]" [Nirmal Raj]*

It may hold true, that the coming generation of slum children will have better know-how and practice with technology, especially because the young generations as exemplified in the slum dwellers' here, are likely to continue their current ICT practices for when their children grow up. Yet, it doesn't necessarily lead to a future washing out of the existing inequality structures, and with indications of digital learning divides it may be difficult for those generation to keep up with the rapid transformations within the ICT function and cost.
The potential and expectations seems founded in the perception of a perfectly equal access to the job market, where the caste stigma seems taken out of the equation. As has been established, the occupational structure is not equal for the lower strata such as the slum dwellers, thus obstructing access and opportunity within the private sector. In terms of other sectors, the low castes may find less access hindrance, notwithstanding that the government jobs are difficult to acquire, and that the educations of many younger generations target formal sector occupation. The lower strata seems to compete with groups that have been engaged here for decades; those with the capital to understand and "*play the game*" in line with Bourdieu's understanding of social fields (Wilken 2014:65ff).

The slum dwellers and urbanity's importance

Castells emphasises the role of urban life in the network society and the information age. The *financial networks* have their headquarters and production in proximity to others in the industry as an expression of practice among the elite, that can meet in business related micro settings, e.g. over a game of golf (Castells 1996:382). Thus, urbanity and the social life herein changes in terms of expansion as more migrant employees (and families) are absorbed into the built structure, and in terms of social groups and practices from non-urban places. The network society, more or less *demands* urbanity in order to sustain its production form, which is currently a massive pull-factor in Chennai, according to Nirmal Raj. However, he also states that urbanisation in Tamil Nadu has always been regarded favourable, which comes to show in the Tamil saying that in translation goes: "*coming to the city will give you a better life*" [Raj], which indicates an understanding of urbanity that predates the more postmodern urbanisation and globalisation tendencies Castells describe.
When glancing at the longitude of residence in the area, the 22 slum dwellers informants have had the house or apartment they live in at an average of 26[28] years. Loganathan states, that his current home has been in the family for 50 years, which predates his birth; except Ramraj, who has lived in Nakirar Nagar for 2 years, everyone's house have been in the family for at least 10 years. This seems indicative

[28] Coherent with findings during prior slum interviews as part of an internship in Chennai, it was evident that in all of the approximately 10 slums visited, a similar long-time trend could be observed

of low geographic mobility. Yet, according to Rohini Reddy, the persistence of residence in the area is not just a matter of mobility and income:

> *"It is not just about earning. In terms of Indian families you need to understand that right from childhood they have been here, all their milestones have been in this area, so they have this mentality that they have to settle in one particular place and all that, based on my understanding. Not that they don't have income to do [move, red.], but it is more something like: "I've been here as a small boy and I finished my studies, so I stay back here". But there are people that move. […] Also moving calls for not just change of residence, but also how will they be able to access their work, the children's school. All that would go for a toss if they move. When you [the slum dwellers, red.] just think of it, and "no, I wont do it. I'll just settle here". [Rohini Reddy]*

This indicates that the slum of Nakirar along with other slums[29] are not (always) temporary places, but places of social practice and interaction, that despite the dilapidated housing and hazardous environments, they still constitute homes, a sense of belonging etc., reversely demonstrating the devastation of eviction processes. Urbanity has and has had historic significance in Tamil Nadu, and in present day, creates a hybrid of tradition and rootedness in urban spaces along with the newer IT industry related tendencies in urbanisation. The slum dwellers, despite the slum setting, live on high-valued inner city land, and the intensifying, continuing focus on the city as a place of opportunity somewhat ironically makes the slum area of Nakirar Nagar more attractive compared to for instance the large, isolated resettlement sites in the outskirts of the city. However, it is unknown if this and prior findings are indicative of a segment that remains in the slum and another who leaves quickly – or, that many rural migrants in, e.g. the informal construction sector resides at their workplace, and do not enter the slums.
In any case, the imperativeness, if the governance wishes to uphold their compliance to the Human Rights Act, the focus should be on providing the slum dwellers with better housing in-situ, rather than the gentrification of eviction.

Summation

This section explored the aspirations toward the IT sector and occupations in a new sector, signalling power and wealth. The emergence of the IT sector in Chennai is part of the ICT revolution that lays the foundation for the Network Society that Castells describe and analyse. A link between the aspirations of the slum dwellers and the ICT as a part of the modern occupational structure was found, and has a direct impact on what type of jobs large numbers of youngsters from the low caste segments choose education and jobs within. In addition, urbanity was discussed as where the modern, sought after sectors are geographically situated, which falls in line with the urban transformations and new urban geography of Castells, in which the large, international companies or financial networks of production attract workers to the city. Eventually the informational elite emerge as leaders of the networks, impact the urban space in for instance, popular outsourcing hubs like Chennai, dispersing workers and causing the construction of familiar, postmodern hotels and other architecture.
Also, the governments high expectations was interpreted based on statements of Nirmal Raj, that implied a neglect of the understanding that the slum dwellers face complications in accessing the formal sector jobs, which leads to the following section.

4. POLICY IMPLICATIONS AND ICT

This section addresses the fourth research question: "4. What is the role of policy related to the concepts?" The policy and government level is not directly part of the overall research regarding the implication of ICT on the urban slum dwellers. Yet, urban bodies such as the TNSCB are important in the understanding between the links of the concepts, because the government with its number of schemes and policies for the urban slum dwellers, are a co-creator of both enabling and constraining structures of the individual dweller. Thus, the government has a direct impact on the slum dwellers' access to ICT and occupations, consequently also the links that this study aims to clarify.
The following will describe findings in the material concerning the reservation system, urban policies and the "Free Laptop Scheme" that is a consequence of the understanding or as here argued, misconception, that information and communication technologies are ends in themselves, and that scale of know-how and the "world-knowledge" is not taken into consideration. Also, the section aims to address some traits of the slum based on Rohini Reddy's statements regarding mentality that seems an implication of the political practice of 'vote banks' in the Chennai slums, which eventually becomes an obstacle for occupation and occupational mobility. The slum dwellers' are less visible in this section, as their statements cannot be interpreted directly as a critique of the schemes; only, the slum dwellers has interpreted the schemes in their own way by for instance referring to the government social housing as "Housing Board" when asked to their type of dwelling, and two of the young informants have received laptops qua the aforementioned scheme.

Urban governance in the network society

In his description and discussion of the network society, Manuel Castells comes to the conclusion, that the efforts aimed to better "*the crisis of the cities*" ultimately becomes a question of urban governance, thus making it a political problem (Castells 2001:548:557).

> *"… In the end, none of these efforts by people, by planners, and by urban designers can function without a transformation of the urban policy, and that depends in turn on the transformation of urban polities. Ultimately, the meaning of cities depends on the governance of cities*." (2002:557).

The new urban geography and urban dynamics are in the last stance brought about by ICT, as creator and part of globalisation, communication, urbanisation, etc. Through the *spaces of flows* (2003,1996), the global, cosmopolitan elite controls the spatiality of the nodes in the network society, because the cities become sites for knowledge-based services that, as is the case for Chennai, draw on urbanisation and thus raises the critical question of absorption of the masses coming to the city. The network society and the ICT based production sites of postmodern times, i.e. large IT parks and companies are visible as well as rapidly expanding in Chennai, that is an important node in a network of cities.
In a development country, it seems logical, that the poorer segment – as argued in the previous section – strive for a piece of the prosperity despite it being a field in which they face trouble "*playing*" cf. Bourdieu. In his interpretation of the space of flows (Castells 2003/1996) Castells points to a clear distinction between those dominating the space of flows, which equals power, thus creating a small global elite and on the other hand the local masses, chained to physical spaces (Castells 2003, 1996). Perhaps the dichotomy is not that sharp, yet the slum dwellers of Nakirar Nagar appear as part of the masses with less mobility capacity and choice. The slum resembles what Castells refer to as "*urban villages*" amongst one of other "*key spatial processes"* in network society (2001:549). It is a specific spatial expression of rapid urbanisation, which the urban bodies are struggling to monitor and control.

The slum dwellers of Nakirar Nagar are distant from the elite, which resembles the life style of which, the youngsters of India strive. The slum stands in stark contrast to the wealth, power and growth represented by the "*postmodern architecture*" of the network society (Castells 1996), i.e. the large IT parks on the high road of OMR in Chennai, also known as the "*IT corridor"* (Braathen 2013:39); indicating the symbolisation of places and spaces as per their physical appearance, which enables a distinction between the deprivation of a slum and the abundance of the global elites.

"Rather in cash, not in kind"

The responsibility of the urban governance, as indicated by Castells, is vital for the city to create and offer better lives for its citizens. In the Chennai and Indian context, this seems problematic considering "*…historically weak governance, especially at the local level, is one of the main factors impairing urban India."* (Ministry of Foreign Affairs of Denmark 2016:18). The large resettlement schemes with eviction of inner city slums is an example of how the urban bodies, exemplified by Nirmal Raj of the TNSCB (Tamil Nadu Slum Clearance Board), officially perceive the aim to better the lives of its underprivileged by providing 'improved housing', however not always in the interest of the individual slum dweller family, who – as described in the previous section – are likely to have both livelihood and roots in their area of residence, despite the slum setting. For the slum dwellers of Nakirar Nagar this may not be a momentary threat to their livelihoods, as the area is categorised as *unobjectionable,* i.e. legalised. However, the TNSCB aims for slum free cities, which according to Nirmal Raj is " *…not an ideal but a possibility, we are already on the march to make it a reality".* As the state government had the authority to label the inner city slums, they also have the option to revert in the effort to meet their objectives – if slum free cities are an actual probability with the current, intensified urbanisation, that Raj explains is the foundation for the department's existence. It can thus be debated whether eviction, that is a latent fear for slum dwellers, is favourable for the government or the slum dwellers, connoting David Harvey's notion of "The right to the city" (2008).
The eviction processes, that can be considered an intense type of "*environmental gentrification"* (Saglio-Yatzimirsky & Landy 2014:17) is related mainly to the urban slum dwellers. But also interventions and activities to access occupation and schemes to provide the graduating slum dwellers with ICT, e.g. the before-mentioned "Free Laptop Scheme"[30] (2006) exist. Unemployed slum dwellers have the offer to attend the annual "Job Mela"[31] or job fair [Nirmal Raj](New Indian Express 2016) where companies can find e.g. service personnel and the slum dweller can give details on job wishes based on education, qualification and experience. Data on the participants is gathered in the intent to match occupation and dweller, and the programme thus also signifies the aid of ICT in urban bodies' work.
The "Free Laptop" scheme officially aims to overcome the before-mentioned *digital divide*, and as two of the respondents, Raj Bharat and M. Yogesh exemplify, the laptop scheme has actually led to practice and use of the laptops. But, as it has been criticised, the large funds may have been better spent on computers in schools and teacher training to better the poor education quality of public schools, as explained in initial sections. Thus, the scheme takes form as a sort of 'vote banking', and a political agenda where the political parties through "freebies" tries to gain and sustain the slum dwellers as an electorate group. Freebies and cash[32] when voting, have in Chennai have become political practice[33].

[30] Introduced by the sitting Chief Minister, Jayalalitha of the AIADMK party.
[31] The TNSCB provided data from the latest Job Mela, April 2016.
[32] In the 2016 Chief Minister election, strong allegations were made that the lower castes were given 3000 rupees to vote
[33] Articles as mentioned initially provide evidence of the occurrences of vote banking.

From the perspective of the individual slum dweller, refusing such an offer would be illogical. Some, like the two informants, have benefitted from the scheme, yet it has been publically problematized, that large numbers of laptops are sold into the 'grey market'[34], which is to be openly found on the large Mount Road in the north of Chennai. The anecdote implies firstly, that providing a poor, urban segment with laptops is likely to result in a number of individuals making economical gain hereof, secondly, that the scheme seem beneficial for some dwellers, but thirdly, that some may sell them, because they besides from money, lack necessity of and know-how with a such device.
According to Reddy, the freebie practice has become part of a materialistic mentality among some dwellers, based on her experiences in Nakirar:

> *"Even after the floods were over, based on the criteria that only certain families were given. There were few families that were not given relief, because they weren't really the worst affected. So they all have this mentality: "you didn't give me anything, no I will not…" You will be really surprised when you go there to mobilize people. When you call elderly women for a camp, they just say: "why should I come for the camp when you never gave us anything?" That is the kind of response you got. It is really harsh! They should think that me and sister [Agnes, red.] don't get anything, we are just reaching out of our own will. But for them, it is all material. "I will come if you're giving me something. Rather in cash, not in kind". (…) You just take a walk and then people would ask: "why are you here, are you going to give me something"? Very straight forward questions. Even after the floods got over and people were getting back to their normal life, they'd say: "Okay, you're here. Can I tell you my details?" [in order to get something, red.]. And we would be like, oh my god, the flood is over and people are back!" [Rohini Reddy]*

Reddy further assessed the government policies and 'freebies' as partly responsible for the mentality experienced. Thus, some political schemes seem two-facetted: they have individual benefits, but they may be part of vote banking done by the political parties by exploiting the slum dwellers as electorates. This creates an ambivalent incitement structure, causing both dependency as well as opportunity. The mentality is, as Reddy points out, not to be found among all slum dwellers, and it is not to say that the urban slum dweller segment is not deserving of support. Neither is it to say, that the public social worker, such as Nirmal Raj do not take his or her job seriously or have hidden agendas; but it indicates both corrupted and weak governance, that in line with Castells' predictions of the megacity nodes in network society, may become an even larger obstacle in the future efforts to monitor and plan city space by the urban governance in an era of intensifying urbanisation and a rapidly increasing population. In a critical perspective, the freebie mentality can be regarded as a way to hold the poor segment in check as voters for political parties aiming to maintain their positions of power.

The slum as an expression of symbolic violence

When referring to power of government, it is associated with Bourdieu's notion of the field of power of the state. Not in the sense, that the state has the monopoly of physical violence, but as is indicated in the resettlement schemes and sites, the urban governance of Chennai, based in Central Government legislation, has the power to "*appropriate space*" (Bourdieu 1999). Bourdieu refers to government policies as the ultimate stake in the struggle to appropriate space, resulting in *"political construction of space"* (Ibid.:129). The state possesses a *symbolic power*, which has been *naturalised* by the population or the groups it exercises power over (Wilken 2014:90,104).

[34] "Jayalalitha's Free Laptops find their way to the grey market" (Rajan 2013).

> *"Because social space is inscribed at once in spatial structures and in the mental structures that are partly produced by the incorporation of these structures, space is one of the sites where power is asserted and exercised, and, no doubt in its subtlest form, as a symbolic violence that goes unperceived as violence." (Bourdieu 1999:126)*

As has been previously established, the caste hierarchy's introduction into Indian legislation can be regarded an institutionalisation of a social stigma. A stigma related to low caste, which eventually is instated and reproduced by the government itself. The caste hierarchy has been naturalised as part of *mental structures*, and thus goes *unperceived as violence.* The slum, that represents the stigma, that is in part kept alive by the state as an 'unequalising' trait, thus expresses a space of symbolic violence by the city governance, whose political party leaders in the Chennai context continuously exploit their power over the slum dwellers to maintain their symbolic power and capital.
The urban governance's role is here seen as paradoxical: it officially aims to alleviate an underprivileged group in society defined by a stigma resembling structuralised inequality; a stigma of which the state itself is a co-producer. The paradox falls in line with the conception of the reservation system as paradoxically "*both constraining and liberating*" (Jodhka in Thorat & Attewell 2007:507), i.e. enabling.

Ultimately, that affects the links between urban slum dwellers, occupation and ICT in a somewhat ambivalent way. Governments and policies may be regarded an enabling and constraining structure for populations in general, but if the *institutionalised stigma* and thus the slum as an expression of *symbolic violence* are endorsed, the government has a way of co-creating the stigma, outspokenly but unseen due to the *naturalisation effect* on the social world cf. Bourdieu. The stigma that comes along with low caste was previously assessed as an obstacle and constraint for the segment to penetrate glass walls and ceilings of especially the formal sector. The previous section discussed the aspirations among youngsters to enter into the private, formal sector jobs, which thus may be further made problematic by the governance.

Summation

This section aimed to show the complications with urban governance in a network society and how that in relation to Chennai governance may be problematic, when the urban governance level in line with Castells, is considered vital for the urban life of the cities in the future. Concrete problems with urban governance are addressed, e.g. the Free Laptop scheme (2006) that had different problems related to it, amongst others if the devices given were more related to gaining a young segment of voters. It was emphasised that the public social workers, such as Nirmal Raj, are not part of the vote banking, nor that the slum dwellers are not deserving, but that the governance's role is ambivalent.
It is moreover argued, that the continuation of caste based differentiation in the government schemes and policies, is a way to both alleviate the low class segment, and also a way to sustain them in an inferior position, as was understood as symbolic violence, as per Bourdieu's terminology.

In addition, this section along with the previous implied an importance of urbanity to participate in the sought-after jobs within large international companies. However, the urbanisation seems and old trait in Tamil Nadu cultural lingo, as Nirmal Raj stated and old Tamil saying: coming to the city will give you a better life. The longitude of the slum dwellers residence in the slum indicate a rooted practice with space and place, and not as fluctuant a group as it is sometimes portrayed. On the other hand, it should

not be underemphasised, that the segments living in Chennai slums *are indeed* deprived, especially in terms of equality to other groups. At present, the picture seems to be going in a direction toward more equality in the educational field and consequently equality in entry to the formalised occupational sector, as should be expected based on formal education. But the occupational and educational fields are also made up of social agents, thus prejudice and expectations toward other groups also finds it way here. Can ICT overcome that? The caste system has existed as a social stigma that has lasted for thousands of years. Can the new education levels, ICT access and formalisation of the informal sector really show the potential to change that?

5. DISCUSSION: THE SIGINIFICANCE OF ICT

The following attempts to discuss the findings related to the previous research questions, and to understand how the urban slum dwellers are affected by ICT in terms of occupation. The link between the pairs of concepts have been interpreted both in terms of the individual and structure, thus the following will try to discuss the relations between all three concepts and present some critical perspectives of what it means, when ICT are introduced into an already unequal social structure.

ICT as a "Wing or bone?"

> *"… but it depends on how people are going to take up things and utilize technology. Now that they have access to technology, how is it that they're using it, as a bone or a wing?"*
> [Rohini Reddy]

What Reddy here questions is the future significance of ICT among the slum dweller segment. The rapid introduction of ICT and the many complexities related in a development country such as India blurs the picture of the potential of ICT. Will it be a 'wing', part of uplifting the slum dweller segment through education, occupation and human development projects or will it be a 'bone', represented by materialism that the 'altruistic' political parties can exploit as a way to maintain position and power by keeping the urban poor as vote bank'ers? Based on the findings here, it appears that ICT does both. The potentials of ICT are not merely a question of 'either or', but a question of 'how' connoting scale and differences. Know-how and access to technology *do* matter as initial steps, but cannot provide equality in opportunity for occupation due to the social stigma and discrimination of caste.
As has been established in the above, the slum dwellers from Nakirar Nagar are facing a persisting inequality that seems re-produced in the structures constituted by the government, who paradoxically works toward its annihilation. Would the social stigma caste also constitutes have persisted without the institutionalisation of castes? Yes, most likely, but the legalisation of the stigma in the constitution has exacerbated the situation, also in terms of internalisation of stigma into a low-caste identity – an affiliation the youngsters of modern day India wants to brush off.
The study does not aim to say, that the reservation and quotas for the underprivileged is 'wrong', rather the system has improved the education levels of many, seemingly along with other transformations in Tamil Nadu, such as the boom in ICT related business. But is the government's granting of higher formal degrees enough to overcome thousands of years of social division in the social world and occupational stigma, even more so one that is inscribed into the legal framework of the country?

The aspirations of many youngsters to go beyond the occupations of their parents have been met by several of the informants, but not all, in which ICT play an important role. Education is undoubtedly a way forward, and an initial step. But a divide seems to split the slum dweller group internally into those with more educational resource, in turn leaving a group of especially elders, but also early school drop-outs on the disadvantaged side of the rapid ICT developments. The formal degrees are a solution for some, but the remaining, low educated group still seem to make out the larger fraction. Skill training and formalisation of vocational training with the inclusion of IT in the educations are seen as the next new intervention in order to formalise the educations of early drop-outs, yet a similar problem with employability might occur: the formalisation of a sector, that traditionally has been cheap and informal, added to a situation of a gross deficit of jobs, might create problems as formal labour is much more costly, which can result in either the prevention of construction of e.g. an IT park and thus sustain an informal segment due to competition. The governance and policy level has the power to monitor the situation, which is thus further problematized by the aforementioned weakness in governance that already struggles to control the masses of people and are prone to bribes from e.g. a large constructor.

For the college graduates, it was found that the novelty of the low caste segment's participation in the formal sector (except for those who obtained government jobs) results in entry or access difficulties, caused by education quality and unemployability – but moreover the absence of social network within the sector and lack of know-how of the social rules in the field complicate entry and acquisition of the 'good' and 'well-paid' jobs. The graduates, of which large numbers are drawn to the wealth of the IT industry and the practice with ICT in their work, end up in back-end jobs with e.g. data entry with little chance of mobility. Will the introduction of ICT to both education and occupation types and practices herein that is 'put on top' of existing inequality really make a difference? Perhaps, these long shift jobs, following international hours with monotone tasks, despite three years in college, will serve as the new type of low-caste work for the semi-resourceful segment within the slum dwellers segment that seem to appear in the findings here. If so, the ICT revolution in Indian and Chennai society, haven't necessarily alleviated inequalities, but just placed an unequal group in a different and perhaps more differentiated type of occupation. Naturally, it is better than the hard labour work as a 'coolie' in construction, but the aspirations and expectations for a slum dweller may be severely put to ground, both in terms of the contents of the work and probable difficulties in upward mobility.

The symbolic violence of the slum is considered subdued to may not seem of direct importance to either occupation or ICT. But in light of the symbolic power of the governance to relocate or evict the inhabitants under the pretence of slum free cities along with the spatial transformations of the network society, where importance of urbanity is a specific trait of working in knowledge-based production in the metropolitan areas, the slum dwellers as the lowest ranging in the resource hierarchy are likely to be the first to be removed from valuable land in the inner city area. The capitalist economy eventually affects the cityscape, and pushes those with least economic capital (and other forms) to the least desired places, such as resettlement sites. The globalisation's effect on the city directly linked to expansion and development in information and communication technologies, may result in a situation where ICT as part of a structure transforming cities around the world, actually becomes a factor of segregation and isolation, and thus the opposite of potential for the urban slum dweller, that would encounter difficulties finding work. That situation is already occurring in and around Chennai.

In essence, the ICT *have* influenced on the urban slum dwellers occupations in terms of occupational opportunities that are now directed to novel types of work compared to the segment's previous

traditional engagement. But the significance and potential of ICT as leading to equality in opportunity seem distant in the light of structuralised inequality and discrimination of the caste groups that the slum dwellers translate into. Moreover, the ICT has an enabling role, to some extent, for those dwellers who learned how to use it, despite that it seems insufficient to break barriers in the job market – but for those in the slums who are not familiar with ICT in a work relation, may be stuck with informal sector work despite the formalisation of the traditionally informal occupations such as carpentry. Without the cheap construction labourers, the build of the large IT parks for many an international company, would not be a reality. The abovementioned "western hours" in the popular IT companies connote a different inequality relation: the one between the western world and the developing countries. The globalisation of production in a capitalist market economy will situate the large financial companies in a cheap, developing country setting where the workforce as well as the real estate market is inexpensive compared to the nations they originate from. Thus, the inequality in occupation types ascribed to the lower castes resulting in cheap, informal labour is indirectly exploited on a global scale, as the groups constructing the power-signalling IT parks are likely to be poor migrants from rural areas or slum dwellers looking for construction work – thus the western countries represented by the large financial industry as part of the network society, also gain from the structuralised inequality affiliated to the low caste segment's and their occupations.

In summation, the perspective taken here, is that ICT may hold much potential and it *may* be able to alleviate and equal out existing differences and discriminations – but ICT is not an end in itself, neither as part of job creation and structure or for the individual, that needs know-how and skills to utilise the device. That returns to the structuralised inequality, that enable some – at least on paper – to mobilise upward from previous traditional occupations, but that also meet constraints in accessing the formal job markets. The urban governance thus needs to understand the potential of ICT in relation to prior inequalities within the segment, rather than poverty alleviating and progress creating in itself. Hopefully, the practices with technology among the younger slum dwellers segment result in passing on practice and know-how to their children, that we are now witnessing the initial stages of the introduction of ICT. Since technologies can be applied to almost any and every aspect of our lives, the role of ICT in the future is difficult to predict for the slum dweller segment. Yet, social structures and inequalities are persistent, which poses the risk, that ICT will become another factor of differentiation and inequality, both for the slum dwellers compared to more resourceful groups in society, but also for the least resourceful within the group of slum dwellers who are further alienated from ICT as the development hereof rushes forward. ICT are in India gradually but steadily becoming part of the work practice, which may alter the future relationship between urban slum dwellers, ICT and occupation, perhaps to a situation where those unable to participate in work including technology will be increasingly distant from both practices, capital and opportunities of those who learned to utilise the ICT.

CONCLUSION

In the setting of Chennai, in the state of Tamil Nadu, India, this study aimed to understand the relation between *urban slum dwellers, occupation* and *information and communication technologies, ICT*. The study and eventual findings are based on 22 structured interviews with slum dwellers in the age group of 18-35 of an inner city slum area. The interviews were due to methodological challenges with a *"sub-ordinate"* group designed as a '*questionnaire hybrid'* unique to this study. Additionally, 4 interviews with local professionals were conducted. The study aimed to challenge the idea of information and communication technologies, both as part of everyday life and structure, and as enabling or directly improving human development among the lower strata. The qualitative single case study had an explorative outset with the three overall *"context-sensitive"* concepts laying the foundation for the "*intensive research design"* as presented by Halkier (2001). The role of ICT and the stigma related to caste were analysed with central concepts of Pierre Bourdieu, e.g. *symbolic violence* (1999) and Manuel Castells' *new urban geography* related to the revolution of ICT (2001a).
By firstly exploring the links between the concepts, the study comes to the following overall conclusions:
The study finds, that the introduction of ICT has affected the urban slum dwellers' occupations, both in terms of the prior education leading to occupations involving ICT and the types of occupation now theoretically available to the low caste segment. ICT have, to some extent, become part of practice amongst the slum dwellers, and for some ICT has also become a part of their work practice. Ergo, the ICT have affected both occupational structure and the use of ICT by the individual.
The expectations set by the government and the potentials of ICT to alleviate the lower caste segment, that the slum dwellers translate into, are problematic to meet, because the ICT's are 'put on top' of already unequal and caste discriminatory structures that constrain the individual from access to types of occupations, i.e. formal sector work, that the segment historically has not been part of despite quotas and reservations for colleges. Thus, the ICT have affected the slum dwellers and occupations, but in an ambiguous mode.
In the first part of the analysis relating to the question of what occupations and educations the slum dwellers have, it was found that the novel education and occupation available divide the group in two. The slum dwellers divide into groups, where the younger, now formally educated have become more resourceful, thus reflecting an internal division of slum dwellers where those without education and ICT know-how are at risk of further alienation from the job market. It lead to an overall distinction between a younger segment that in terms of occupation and especially education, appear more resourceful in line with Pierre Bourdieu's notion of forms of capital (1986). The transformations in the educational field are, in part, brought about by the ICT revolution along with the reservation system instated by government. The caste system's introduction to legislation takes form of an institutionalised stigma, which adds to the re-production of the stigma related to low caste on the legislative structure of India. The slum dwellers translate into low caste, which due to existing inequalities constrain them from access to and mobility within the occupational sector, identified by the concepts of glass walls and glass ceilings (Das & Dutta 2007). That problematizes the opportunities to access occupation for the slum dweller segment, despite high degrees of formal education,
The question as to the slum dwellers practices with ICT in daily life and work sphere, show that the inequalities and differences amongst the group in terms of gender, age and life cycle that relate to education seem repeated in their practices with ICT. The slum dwellers are part of the network society, as it showed that all informants had experience with ICT, but not necessarily ownership hereof, which

questions the scale of practice. Also, the dwellers' access and use of different ICT devices again expressed a divide in the group, where especially elder women are subject to a digital divide in part due to the gender roles in patriarchal society. The younger informants with degrees and diplomas and access/practice with technology, may however meet a digital learning divide, meaning that the segment may find complications in following the rapid changes and developments of ICT. It was found, that ICT may pose the chance to eliminate gender inequalities *within* the low caste segment, as the IT industry attracts a somewhat equal amount of young men and women. Also ICT can be seen as a facilitator of occupation, given that one has a social network to use it within, which the segment as a social group is distant from. The practices and conspicuous consumption of smart technology among the youngsters is a way to signalise resources or capital, as part of a strategy to exceed their parents educational and occupational levels. Yet, in especially the formal, private sector, the group faces entry complications due a lack of the cultural and social capital the formal occupational field requires; that the slum dwellers meet difficulties because they do not know the rules of the game.

The third section of the analysis explores the aspirations and expectations to ICT from both the government and the lower caste segment. The aspirations are linked to the ICT revolution and its role in network society as novelty in occupation, which is specifically urban due to the placements of financial knowledge-based production in the cities (Castells 2001). That results in urban transformations, in which the role of the slum of Nakirar Nagar was discussed as favourable due to its inner city location and proximity to work, institutions etc. Urbanisation in Chennai is not merely a novel development; it is linked traditional norms about belonging to one's place of upbringing, which is expressed in the longitude of the slum dwellers residence in the area. That necessitates the understanding of the slum as rooted in both tradition and modernity, and that the slum constitutes home for its dwellers. The area The policy level and urban governance was discussed in terms of its role between the urban slum dwellers, occupation and ICT, which was considered to be ambivalent because the institutionalised stigma reproduces inequalities, that the governance is trying to annihilate through their programmes and schemes, thus resulting in a paradox. It was discussed, if the high expectation of ICT can really result in human development and job creation, when ICT are "put on top" of existing inequalities.

ICT cannot wash out existing inequalities, at least not easily, which thus may result in a segmentation of low caste workers in the now aspired-for 'back-end' jobs in large international companies that due to production costs and efficiency as part of the logic of capitalist economy situate their production in inexpensive settings, such as Chennai. In line with the interpretation of the slum as a place in network society, the government has the symbolic power over the space that make up the slum, which means that they also have the power to evict people from there, despite the areas role as an unobjectionable or legalised area. The objectives of the Tamil Nadu Slum Clearance Board include slum free cities, which in turn would mean a resettlement of the informant group here, leading to less opportunity and access to work, institutions etc., besides from the devastation uprooting from one's home cause. Thus, ICT as part of structural and spatial transformations embedded in capitalist economy may further disadvantage the group by relocating them to isolated areas outside the city. In essence, the ICT introduction to educations, work practice, everyday life, urban governance and occupational structure forming new types of occupations for the slum dwellers segment, may benefit the slum dweller segment in several manners. But equality in opportunity within the caste hierarchy seem distant and a responsibility that largely rests on the shoulders of governance, whose part seem ambiguous as both co-creator of the stigma and as representatives of political parties that sustain the slum dwellers in their inferior positions, and in turn uphold the powerful positions the politicians take.

A perspective: Smart City Technology on the doorstep

The next thing in the IT and ICT revolution in India is the Smart City Technology. Prime Minister Narendra Modi introduced the Smart Cities Mission (http://smartcities.gov.in) as a competition between the large cities in India, including Chennai, which in July 2016 won the second round that releases large funds for investment. The ambitious Smart City Technology introduction reflects the expectations linked to information and communication technologies and their anticipated ability to alleviate poverty, better the environment and ease the efforts and problems for urban governance through different ICT systems. Some of which the city governance is slowly integrating into its departments, as the interview with social worker for the Tamil Nadu Slum Clearance Board, Nirmal Raj stated. Large amounts of rupees have been put into the Smart Cities Mission, attracting both domestic and international investors; the latter plays a central part in the current political economic scene in India, as a way to sustain growth and GDP. The Danish Royal Embassy of Denmark and Danish Industry (DI) are collaborating to explore the potentials for Danish companies regarding the new smart city possibilities as the recent report, *Smart Liveable Cities in India – Opportunities for Danish Companies* (2016) exemplify. The projects are described to take bottom-up approaches, meaning that the urban poor and slum dwellers are expected to be part of the planning and to be able to perform and interact with the technology. For a large group of the current slum dweller segment technology and especially smart technology is alien, which is an important perspective in the practical implementation of projects. As exemplified by Prathibha Joshi of the IFMR, who work with Microfinance and ICT projects, expressed complications related to practice with cell phones regarding behavioural studies in developing countries. Technology, for example the cell phone is not used by the segment as would be expected. That stresses the need to understand local context, and that practices with technology differ substantially among social groups. Access to technology along with a minimum of know-how may not be sufficient for a slum dweller to properly participate in smart city projects, because behaviour with technology seem dependent on basic education level that many still lack, especially the elder segment. The perspective here means to highlight the need to understand local context, and to collaborate with local NGOs and urban governance bodies and to keep in mind that an underprivileged segment like the urban slum dwellers are internally divided in their ability to perform with technology, which may cause practical complications in the conduction of smart city technology projects with urban poor segments.

CITATIONS LIST

- Adaikalam, Francis V. 2010. "Eviction, Housing and Livelihood in Chennai." *Refugee Watch* 36, December 2010. Part of the Fellowship of the South Asia Centre for Research and Documentation.
- Antoft, Rasmus & Heidi Salomonsen. 2007. "The qualitative case study – introduction to a research strategy" [Det kvalitative casestudium – introduktion til en forskningstrategy]. In *Handicraft & Horizons [Håndværk & Horisonter],* chapter 1.;29-57. University of Southern Denmark: Odense, Denmark.
- BCMBCMW. 2016. "Reservation Benefits". Website of Department of Backward Classes and Most Backward Classes and Minorities Welfare. Located on March 15, 2016. URL: http://www.bcmbcmw.tn.gov.in/reservbenefits.htm
- BCMBMCW 2016a. "Tamil Nadu Backward Classes Commission**".** Website of Department of Backward Classes and Most Backward Classes and Minorities Welfare. Located on March 15, 2016. URL: http://www.bcmbcmw.tn.gov.in/bccomm.htm
- BCMBMCW 2016b. "List of Backward Classes approved by Government of Tamil Nadu". Located on March 15, 2016. URL: http://www.bcmbcmw.tn.gov.in/bclist.htm
- Berger, Peter L. & Thomas Luckmann. 1966. *The Social Construction of Reality. A Treatise in the Sociology of Knowledge.* Penguin Group: London.
- Bourdieu, Pierre. 1977. *Outline of a Theory of Practice.* Cambridge University Press: Cambridge.
- Bourdieu, Pierre. 1986. "The Forms of Capital". In Richardson, J., *Handbook of Theory and Research for the Sociology of Education*, pages 241–58.: Greenwood Press: New York, USA.
- Bourdieu, Pierre. 1998. *Practical Reason. On the Theory of Action.* Stanford University Press: California.
- Bourdieu, Pierre. 1999. *Weight of the world – Social Suffering in Contemporary Society.* Polity Press: Cambridge.
- Castells, M. 2003 (1996). "Space of Flows" [Strømmenes Rum]*".* In *The Rise of the Network Society [Netværkssamfundet og dets opståen]*, pages 351-395. Hans Reitzel Forlag, Copenhagen.
- Castells, Manual. 2002a. "Local And Global: Cities In The Network Society". *Tijdschrift voor Economische en Sociale Geografie*. 93;*(5)*: 548–558. Blackwell Publishers: Malden, USA.
- Castells, Manuel. 2002. "Urban Sociology in the Twenty-First Century". *Cidades – Communidades e Territórios,* 5:9-19.
- Chandrasekhar, C.P. 2001*. ICT in a Developing Country Context: An Indian Case Study.* Centre for Economic Studies & Planning, Jawaharlal Nehru University: New Delhi, India.
- Chauduri, Saumitra. 2016. "India's High Growth Rate Isn't Translating to Job Creation". Located on June 24, 2016. URL: http://thewire.in/30081/indias-high-growth-rate-isnt-translating-to-job-creation/
- Das, Maitreyi Bordia & Puja Vasudeva Dutta. 2007. *Does Caste Matter For Wages In The Indian Labor Market?* World Bank: Washington DC, USA & New Delhi, India.
- Directorate of Census Operations Tamil Nadu. 2011. *District Census Handbook Chennai. Village and town wise primary census abstract (PCA).* Report. Government of India: Chennai.
- Dupont, Véronique & R. Dhanalakshmi. 2013. "Settlement Field Report, Chennai". Pages 38-46 in Braathen, E., *Addressing Sub-Standard Settlements WP3 Settlement Fieldwork Report.*

- Economic Times. 2016. "World's cheapest smartphone Freedom251 hits India; industry sceptical". Located on February 20, 2016. URL: http://economictimes.indiatimes.com/articleshow/51028797.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
- Ellis, Peter & Mark Roberts 2016. *Leveraging Urbanisation in South Asia – Managing Spatial Transformation for Prosperity and Livability.* World Bank Group: Washington DC.
- Flyvbjerg, Bent. 2006. "Five Misunderstandings About Case-Study Research". In *Qualitative Inquiry,* 12;*(2)*: 219-245. Sage Publications: Aalborg.
- Government of India. 2016. *"Ministry of Housing and Urban Poverty Alleviation".* Report. Located on May 3, 2016. URL: http://mhupa.gov.in/Default.aspx
- Halkier, Bente. 2001. "Can pragmatism be analytic? The study of environmental considerations as an example" [Kan pragmatism være analytisk? Studiet af miljøhensyn I forbrug som eksempel]. In *Qualitative Methods – from meta theory to fieldwork. [Kvalitative metoder – fra metateori til markarbejde]* pages 41-59. Roskilde University Publisher: Roskilde.
- Hammersley, Martyn & Paul Atkinson. 2007. "Access". In *Ethnography: Principles in Practice,* pages 41-53. Psychology Press: London.
- Hanchinamani, Bina B. 2001. "Human Rights Abuses of Dalits in India". In *Human Rights Brief,* 8;*2* article 6. American University Washington College of Law: Washington D.C.
- Harvey, David. 2008. *The right to the city.* New Left Review: London.
- Hiddleston, Sarah. 2011, March 16. "Cash for votes a way of political life in South India". Article in The Hindu. Located on May 26, 2016. URL: http://www.thehindu.com/news/the-india-cables/cash-for-votes-a-way-of-political-life-in-south-india/article1541302.ece
- Jain, Tarun & Priyanka Sarda. 2014. *Job markets that work: Challenges of match-making in an emerging economy.* Indian School of Business: Hyderabad, India.
- Kannabiran, Kalpana. 2006. "Reservation and the creamy layer". Located on April 23, 2016. URL: http://www.thehindu.com/todays-paper/tp-opinion/reservation-and-the-creamy-layer/article3064833.ece
- Ministry of Foreign Affairs of Denmark. 2016. *Smart Liveable Cities in India – Opportunities for Danish Companies.* Published by the Royal Danish Embassy, India: New Delhi. Located on June 17 2016. URL: https://issuu.com/spokespeople/docs/smart_liveable_cities_in_india_fina
- Ministry Of Housing And Urban Poverty Alleviation. 2011. *Slums in India. A Statistical Compendium 2011.* Government of India: New Delhi.
- Ministry of Micro, Small and Medium Enterprises. 2015. *Annual Report 2014-15.* Government of India: New Delhi.
- Naik, Ajaya Kumar. 2009. "Measuring the Informal Economy in Developing Countries - Informal Sector and Informal Workers in India". Prepared for the Special IARIW-SAIM Conference in Kathmandu, Nepal, September 23-26, 2009. Jawaharlal Nehru University, New Delhi.
- NASSCOM 2016. "India IT-BPM Overview". Located on July 23, 2016. URL: http://www.nasscom.in/indian-itbpo-industry
- New Indian Express 2016. "Job Fair for City's Flood-Affected Big Hit". Loacted on May 20, 2016. URL: http://www.newindianexpress.com/cities/chennai/Job-Fair-for-Citys-Flood-Affected-a-Big-Hit/2016/02/07/article3265083.ece
- NSSO (National Survey Sample Organisation) 2004-5. *Concepts and Definitions Used in NSSO. Golden Jubilee Publication.* Ministry of Statistics and Programme Implementation. Government of India: New Delhi.

- Office of the Registrar General and Census Commissioner 2013. *Primary Census Abstract for Slum.* Report summation. Government of India: New Delhi.
- Olsen, Henning. 2003. "Roads to qualitative quality? On securing quality of qualitative interview research". *Nordisk Pedagogik*, 23:1–20. Abstract Forum: Oslo.
- Pedersen, Eva Løvschall Haugaard. 2016. *Report from ACA internship February – July 2015 Livelihoods and living conditions of 70 sponsorship children in urban and rural sociological perspectives + evaluation of five partner organisation visits.* Department of Sociology, MA of City, Housing and Settlement Patterns. Aalborg University: Copenhagen.
- Rajan, M.C. 2013. "Jayalalitha's Free Laptops find their way to the grey market". Located on May 25, 2016. URL: http://indiatoday.intoday.in/story/jayalalitha-tamil-nadu-free-laptop-scheme-students-aiadmk-free-colour-tv-scheme/1/261626.html
- Rama, Martín, Tara Béteille, Yue Li, Pradeep K. Mitra, & John Lincoln Newman. 2015. *Addressing inequality in South Asia.* World Bank Group: Washington DC.
- Ramachandran, Rajesh. 2012. "Skim the Dalit creamy layer". Article in MailOnlineIndia. Located on May 26, 2016. URL: http://www.dailymail.co.uk/indiahome/indianews/article-2087541/Skim-Dalit-creamy-layer.html
- Ramachandran, Vimala. 2003. *Gender Inequality in education in India*. Background paper prepared for the Education for All Global Monitoring Report 2003/4, Gender and Education for All: The Leap to Equality. United Nations Educational, Scientific and Cultural Organization: India.
- Ramya, Sarah P. & Vanessa Peter 2014. *Forced to the Fringes: Disasters of 'Resettlement' in India. Report Two: Kannagi Nagar, Chennai.* Housing and Land Rights Network: New Delhi.
- Saglio-Yatzimirsky, Marie-Caroline & Frédéric Landy 2014. *Urban Challenges – Vol. 1. MEGACITY SLUMS. Social exclusion, Space and Urban Policies in India*. Imperial College Press: London.
- Siddaramu, B. 2013. "The Consciousness Of Caste In The Contemporary Indian Society". In *International Journal of Research in Humanities, Arts and Literature* (IJRHAL), 1;*(1)*. Impact Journals: Gautam Buddha Nagar, UP, India.
- Siddique, Zahra. 2008. *Caste Based Discrimination: Evidence and Policy.* Discussion Paper No. 3737, Institute for the Study of Labor: Bonn.
- TNSCB (Tamil Nadu Slum Clearance Board). 2015. *2005-2015. Beyond Housing, Empowering Communities.* Report on the JnNURM scheme in Chennai. Government of India: Chennai.
- The Economist 2013. "India's demographic challenge. Wasting time". Article in the Economist. Located on April 12, 2016. URL: http://www.economist.com/news/briefing/21577373-india-will-soon-have-fifth-worlds-working-age-population-it-urgently-needs-provide Located on 25 March 2016.
- Thorat, Sukhadeo & Paul Attewell. 2007. "The Legacy of Social Exclusion: A Correspondence Study of Job Discrimination in India". *Economic and Political Weekly*, 42;*(41)*: 4141-4145. Economic and Political Weekly: India.
- Thorat, Sukhadeo. 2007. *Economic Exclusion And Poverty In Asia. The Example of Castes in India*. 2020 FOCUS BRIEF on the World's Poor and Hungry People. December 2007.
- United Nations, 2014. *Concise Report on the World Population Situation in 2014.* Department of Economic and Social Affairs, Population Division: New York.
- Wacquant, Loïc. 1996. "The Rise of Advanced Marginality: Notes on its Nature and Implications". In *Acta Sociologica* 39;*2* (121-139). Sage Publications: London.
- Wikipedia 2016."The Creamy Layer". Located on July 9, 2016. URL: https://en.wikipedia.org/wiki/Creamy_layer

- Wilken, Lisanne 2014. *Bourdieu for Beginners [Bourdieu for Begyndere].* 2nd edition. Samfundslitteratur: Frederiksberg C, Denmark.
- Yin, Robert K. 2013. "Validity and generalization in future case study evaluations". In *Evaluation,* 19;*(3)*: 321–332 Sage Publications: Bethesda, USA.